

CITY OF LEEDS.

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REPORT

ON THE

**Health and Sanitary Administration**

OF THE CITY

FOR THE YEAR 1929

BY

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*Medical Officer of Health.*

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## PUBLIC HEALTH COMMITTEE.

LORD MAYOR (Councillor N. G. Morrison).

*Chairman* : Councillor G. BRETT.

Alderman G. RATCLIFFE.	Councillor B. AINSWORTH.
Councillor M. CLEGG.	„ A. LEE.
„ W. WITHEY.	„ Dr. C. H. MOORHOUSE
„ DOROTHY MURPHY.	„ (Deputy-Chairman).
„ D. BEEVERS.	„ P. T. LEIGH.

## SUB-COMMITTEES.

### MATERNITY AND CHILD WELFARE.

*Chairman* : Councillor M. CLEGG.

Alderman G. RATCLIFFE.	Councillor B. AINSWORTH.
Councillor W. WITHEY.	„ A. LEE.
„ Dr. C. H. MOORHOUSE.	„ D. BEEVERS.
„ G. BRETT.	„ P. T. LEIGH.
„ DOROTHY MURPHY.	

### CO-OPTED MEMBERS.

Mrs. R. H. BLACKBURN.	Mrs. A. WOOD.
Mrs. L. OTTOLINI.	Mrs. AUSTYN BARRAN.
Mrs. J. AINSWORTH.	

### CO-OPTED MEMBERS FOR INFANTS' HOSPITAL, WYTHIER.

Mrs. E. KITSON CLARK, LL.D.	Mrs. G. HALBOT, J.P.
Mrs. B. M. DAVID.	Mrs. T. L. E. SPILMONT.
Dr. CLARA STEWART.	

## TUBERCULOSIS.

*Chairman* : Councillor G. BRETT.

Alderman G. RATCLIFFE.	Councillor A. LEE.
Councillor Dr. C. H. MOORHOUSE.	„ M. CLEGG.
„ W. WITHEY.	„ B. AINSWORTH.
„ DOROTHY MURPHY.	„ P. T. LEIGH.
„ D. BEEVERS.	

## SEACROFT HOSPITAL.

*Chairman* : Councillor Dr. C. H. MOORHOUSE.

Alderman G. RATCLIFFE.	Councillor DOROTHY MURPHY.
Councillor D. BEEVERS.	„ P. T. LEIGH.
„ G. BRETT.	„ A. LEE.
„ M. CLEGG.	„ B. AINSWORTH.
„ W. WITHEY.	

## JOINT DAY NURSERIES.

<i>Representing Maternity and Child Welfare Committee.</i>	<i>Representing Education Committee.</i>
Councillor Dr. C. H. MOORHOUSE.	Councillor W. WITHEY.
„ M. CLEGG.	„ F. H. O'DONNELL.
„ D. BEEVERS.	Mrs. G. HALBOT, J.P.

### *Representing Leeds Day Nurseries Association :*

Lady W. H. CLARKE.      Mrs. E. S. G. FOWLER.      Mrs. A. E. IVES.

## CATTLE DISEASES, MILK AND MEAT.

*Chairman* : Alderman G. RATCLIFFE.

Councillor P. T. LEIGH.	Councillor D. BEEVERS.
„ W. WITHEY.	„ G. BRETT.
„ A. LEE.	

## PUBLIC HEALTH STAFF.

Medical Officer of Health and Chief Tuberculosis Officer.	J. JOHNSTONE JERVIS, M.D., Ch.B., D.P.H.
Chief Assistant Medical Officer of Health	ARTHUR MASSEY, M.D., Ch.B., D.P.H.
Assistant Medical Officer of Health for Maternity and Child Welfare and Medical Officer of Infants' Hospital	GLADYS J. C. RUSSELL, M.B., Ch.B., D.P.H.
Assistant Medical Officers for Maternity and Child Welfare	SARAH N. S. BARKER, M.B., Ch.B., L.R.C.P., M.R.C.S. MARIA L. GAUNT, M.B., Ch.B. ANNIE M. FORREST, M.B., Ch.B., D.P.H. MARION KNOWLES, M.B., Ch.B. CATHERINE M. GRAY, M.B., Ch.B.
Consulting Clinical Tuberculosis Officer	H. de CARLE WOODCOCK, M.D., M.R.C.S., F.R.C.P. (Edin.), D.P.H.
Chief Clinical Tuberculosis Officer ..	N. TATTERSALL, M.D., B.S., Ch.F.
Assistant Clinical Tuberculosis Officer	L. W. HEARN, M.B., B.S.
Assistant Clinical Tuberculosis Officer	ALEXANDRENA M. MACLENNAN, M.D., Ch.B.
Dental Officer for Maternity and Child Welfare and Tuberculosis Work	W. L. FLEMING, L.D.S.
Medical Superintendents—	
Infectious Disease Hospital (Seacroft).	J. S. ANDERSON, M.A., M.D., Ch.B., D.P.H.
Killingbeck Sanatorium .. ..	W. A. TODD, M.B., Ch.B.
Gateforth Sanatorium .. ..	H. E. REBURN, M.B., B.S., L.M.S.S.A.
Venereal Diseases Officer .. ..	J. P. BIBBY, M.B., Ch.B., M.R.C.P.
Assistant Medical Officer for Venereal Disease .. ..	A. A. D. LA TOUCHE, Ch.B., F.R.C.S.
Do. .. do. ..	DOROTHY PRIESTLEY, M.D., B.S.
City Bacteriologist .. ..	J. W. MCLEOD, M.B., Ch.B.
Chief Veterinary Officer .. ..	J. A. DIXON, M.R.C.V.S.
Assistant Veterinary Officer .. ..	E. F. MCCLEERY, M.R.C.V.S., D.V.S.M.
City Analyst .. ..	C. H. MANLEY, M.A., F.I.C.
Assistant City Analyst .. ..	R. W. SUTTON, B.Sc., F.I.C.
Divisional Sanitary Inspectors ..	E. STANDISH. G. F. MARSHALL.
Removal Officer .. ..	D. FERGUSON.
Chief Health Visitor and Inspector of Midwives .. ..	MARY E. HUGHES.
Principal Clerks—	
Finance .. ..	A. R. BEST.
Statistics .. ..	J. P. MOIR.
Sanitary .. ..	A. SPARKS.
Infectious Diseases .. ..	H. O. PEAKE.
Secretarial .. ..	P. A. WOODCOCK.
Food and Drugs .. ..	F. S. KELLY.

## STAFF.

Special Inspectors including Smoke, Lodging-houses, Food and Drugs, Dairies, Meat, Housing and Workshops .. .. .	16
Laboratory Assistant .. .. .	1
Sanitary Inspectors .. .. .	19
Female Sanitary Inspectors .. .. .	2
Health Visitors .. .. .	35
Sunlight, Orthopædic and Dental Nurses .. .. .	2
Chief Health Visitor and Inspector of Midwives .. .. .	1
Tuberculosis Nurses .. .. .	11
Dispensers .. .. .	7
Masseuses .. .. .	3
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City Hospital, Seacroft (3 Assistant Medical Officers, 1 Matron, 2 Assistant Matrons, 1 Sister Tutor, 95 Nurses, 73 Female Servants, 48 Male Servants, including Engineers, Porters, etc., 1 Dispenser, 2 Clerks) .. .. .	226
Killingbeck Sanatorium (1 Assistant Medical Officer, 1 Matron, 1 Assistant Matron, 1 Dispenser, 1 Clerk, 15 Porters, etc., 7 Sisters, 28 Nurses, 43 Maids, 2 Teachers, 1 Handicrafts Instructor) ..	101
Gateforth Sanatorium (1 Matron, 1 Staff Nurse, 2 Assistant Nurses, 1 Cook, 7 Maids, 1 Working Foreman, 1 Handyman and 1 Gardener)	15
The Hollies Children's Sanatorium (1 Matron, 1 Sister, 3 Assistant Nurses, 2 Teachers, 1 Cook, 3 Maids, 1 Charwoman, 1 Handyman)	13
Infants' Hospital, Wyther (1 Matron, 1 Sister, 1 Masseuse, 4 Staff Nurses, 13 Probationer Nurses, 1 Cook, 5 Maids, 2 Laundresses, 1 Handyman, 1 Gardener) .. .. .	30
Red House Day Nursery (1 Matron, 1 Sister, 10 Probationer Nurses, 1 Housemaid) .. .. .	13
Cobden Place Day Nursery and Blenheim Hostel (1 Matron, 1 Home Sister, 1 Staff Nurse, 9 Probationer Nurses, 2 Maids) .. .. .	14
The Factory-in-the-Field (1 Manager, 1 Clerk). Firewood Depart- ment :—(1 Foreman, 17 Men, 3 Drivers, 6 Travellers). Brush Department :—(1 Foreman, 3 Brushmakers, 1 Traveller). Printing Department :—(1 Foreman, 6 Printers), 1 Gardener, 1 Caretaker and Cook, 1 Assistant Cook .. .. .	44

## CITY OF LEEDS.

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*To the Chairman and Members of the Health Committee.*

*Madam and Gentlemen,*

*I have pleasure in presenting my annual report of the Health and Sanitary Circumstances of the city for the year 1929.*

*Contrary to what one might have expected in a year which from a climatological point of view ought to have favoured good health, 1929 had a disappointing health record.*

*The vital and mortal statistics were less favourable than in any year since 1918.*

*The birth-rate (15.5) was the lowest ever recorded in the history of the city being 0.6 per thousand lower than the rate for the previous year and 2.1 per thousand lower than a decade ago.*

*Largely due to a severe epidemic of Influenza in the first quarter, the death-rate for the year (16.5) was abnormally high, the highest indeed since 1918 which, as you may remember, was also an Influenza year.*

*The infantile mortality rate (97) shared in the rise with the general death-rate and was the highest recorded since 1924. Last year it was 79.*

*For the first time since 1918 the deaths exceeded the births and there was no natural increase of the population.*

*The year was marked by a severe epidemic of Influenza in the first quarter which, though not quite of the devastating character of the 1918 outbreak, nevertheless accounted for a large number of deaths and, as already mentioned, was an important factor in lifting the general mortality to its high figure.*

*Measles reappeared in epidemic form but considering the unusually large number—over 10,000 cases notified—the fatality rate was low.*

*Tuberculosis continued to yield ground, there being fewer cases notified than in any previous year since the disease became notifiable in 1913. Unfortunately the death-rate was higher than usual probably accounted for by the prevalence of influenza and other respiratory infections in the early months of the year.*

*That no progress has been made with the scheme for the provision of a hospital for the treatment of orthopædic conditions—including surgical tuberculosis—is to be regretted. The present position is most unsatisfactory and calls urgently for attention.*

*During the year another attempt was made to bring about the unification of the two great branches of the Public Health Service in the city, namely the School Medical Service and the Public Health Service, but without result. A reform so obviously necessary and desirable cannot be postponed indefinitely and at a time when co-ordination is freely spoken of in connection with the transfer of the Poor Law Medical institutions to the Council, it is opportune to include the School Medical Service with them in the scheme.*

*Details of the work of the Public Health Department during the year will be found in the separate sections of this report which have been written by the Senior officers in charge of the various sub-departments.*

*To them and to the other members of the staff who have contributed to the success of the year's work I proffer my sincere thanks.*

*I should also like to acknowledge my indebtedness to you, Mr. Chairman, and all the members of the Health Committee for your unfailing sympathy and support.*

*I am,*

*Madam and Gentlemen,*

*Your obedient Servant,*

*J. JOHNSTONE JERVIS.*

*Public Health Department,  
Leeds,*

*August, 1930.*

# SUMMARY, 1929.

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LATITUDE 53°48' North. LONGITUDE 1°32' West.

AVERAGE HEIGHT ABOVE SEA LEVEL 250 feet.

AREA OF CITY .. .. . 38,106 Acres

POPULATION (Registrar-General's estimate) .. .. 478,500

ESTIMATED NUMBER OF HOUSES .. .. 127,492

RATEABLE VALUE .. .. . £3,337,161

SUM REPRESENTED BY A PENNY RATE .. .. £12,919

		Average 1929. 1919-28.
BIRTH RATE (births per 1,000 living) .. .. .	15.52	18.73
MARRIAGE RATE (persons married per 1,000 living) ..	16.62	17.66
DEATH RATE (deaths per 1,000 living) .. .. .	16.51	13.65
NATURAL INCREASE OF POPULATION .. .. .	-472	2,362
(Excess of births over deaths in the year)		
INFANT MORTALITY RATE .. .. .	97	97
(Deaths under 1 year per 1,000 births)		
DEATH RATE from Pneumonia and Bronchitis .. .. .	2.89	2.27
"          "          Cancer .. .. .	1.43	1.30
"          "          Diarrhoea and Enteritis (under 2 years)		
per 1,000 births .. .. .	11.58	14.53

	Cases.	Case- rate.	Deaths.	Death rate.
SCARLET FEVER .. .. .	3,473	7.26	29	0.06
DIPHTHERIA .. .. .	536	1.12	26	0.05
TYPHOID FEVER .. .. .	14	0.03	3	0.01
MEASLES .. .. .	10,742	22.45	102	0.21
PULMONARY TUBERCULOSIS ..	743	1.55	508	1.06
OTHER FORMS OF TUBERCULOSIS	156	0.33	113	0.24

# City of Leeds.

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## Natural and Social Conditions.

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**Area.**—The area of the city was the same as in 1928, namely, 38,106 acres.

**Population.**—At the middle of the year, the population as estimated by the Registrar General was 478,500, an increase of 2,000 on the estimate for 1928 and 13,000 on the adjusted census population of 1921.

The estimated number of occupied houses at June 30th, was 125,137 and unoccupied 1,143. For a comparison it may be noted that the corresponding numbers at the 1921 census were 108,534 and 2,737. Assuming that the average occupants per house remains the same in 1929 as at 1921, namely 4·2, the population would work out at 525,575. It is more than probable, however, when the next census comes to be taken in 1931 that this average will have dropped appreciably. Compared with the previous year the number of occupied houses has increased by 2,249 and the unoccupied decreased by 69.

With only another year of the intercensal period to run, it is difficult to state exactly how the population is distributed amongst the 17 wards of the city, and the figures given in the table on page 12 can only be regarded as approximately accurate. The difficulty of estimating the ward populations has been enhanced by the opening out of the various new housing estates and the tendency thereby induced for the people to move away from the central and more congested districts to the outskirts. From this it must not be inferred that the centre of the city is becoming depopulated, on the



The following table shows the constitution of the population in age groups at the 1921 census:—

1921 CENSUS POPULATIONS IN AGE GROUPS.

Sex.	Under 1	1 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Total.
Males ..	4,645	13,419	41,533	38,348	63,219	44,198	10,125	215,487
Females ..	4,511	13,217	41,354	45,677	76,492	47,830	13,664	242,745
Total ..	9,156	26,636	82,887	84,025	139,711	92,028	23,789	458,232

POPULATION IN WARDS.

WARD.	Census, April 2nd, 1911.	Census, June 1911, 1921.	Adjusted population, 1921.	Estimated population middle of 1929.
Central .. ..	14,503	12,528	12,727	12,636
North§ .. ..	41,968	42,423	43,096	44,274
North-East ..	36,239	36,011	36,582	36,667
New Ward* ..	..	7,814	7,938	13,812
East .. ..	34,701	35,272	35,832	36,115
South .. ..	12,562	12,817	13,020	12,951
East Hunslet† ..	33,562	35,264	35,823	37,957
West Hunslet ..	35,766	36,129	36,702	36,445
Holbeck .. ..	29,679	29,441	29,908	29,692
Mill Hill .. ..	5,856	5,286	5,370	5,274
West .. ..	20,553	22,029	22,378	22,079
North-West ..	30,570	31,531	32,031	31,707
Brunswick ..	23,219	23,930	24,310	24,006
New Wortley ..	16,714	17,773	18,055	18,009
Armley & Wortley	37,419	36,762	37,345	37,508
Bramley .. ..	23,937	23,481	23,853	24,685
Headingley‡ ..	48,302	49,741	50,530	54,683
City .. ..	445,550	458,232	465,500	478,500

§ Including Alwoodley (1921 Census, 205) and portion of Eccup added to Leeds, April 1st, 1928.

\* Roundhay, Seacroft, Shadwell and Cross Gates added to Leeds, November 1912 (1911 Census, 7,398), including Templenewsam (1921 Census, 3,393) and portion of Austhorpe (1921 Census, 71) added to Leeds, April 1st, 1928.

† Including Middleton added to Leeds, April 1st, 1920 (1911 Census, 1,207).

‡ Including portion of Adel added to Leeds, April 1st, 1926 (1921 Census, 987) and portion of Eccup added to Leeds, April 1st, 1928.

§‡ The 1921 Census population of Eccup which was divided between the North and Headingley Wards was 234.



contrary the population is just as dense to-day and the number of unoccupied houses as small in the central portion of the city as at the beginning of the decade.

**Rateable Value.**—The rateable value of the city was £3,337,161 and the estimated product of a penny rate £12,919. The corresponding figures for 1928 were £3,327,483 and £12,908.

**Principal Industries.**—The principal industries in the city remained as in previous years, namely, engineering, iron and steel, woollen, ready-made clothing, leather, boot and shoe, printing and dyeing.

The trade of the city showed signs of improvement during the early part of the year but dropped away again towards the end. The number of persons out of employment during the year fluctuated, but taking the year as a whole it remained fairly stationary. Because of the variety of its industries Leeds has not suffered from trade depression to the same extent as many other towns in the country. That there is a very definite association between ill-health and unemployment is recognised by all social workers and though the various ameliorative measures adopted by the State have improved matters considerably, in times of bad trade there is still a great deal of suffering amongst the working-classes which is reflected in the health statistics of the city as a whole.

**Meteorological Conditions.**—The year 1929 was one of the sunniest and driest on record. The hours of bright sunshine registered in the city was 1,332·7 an increase of 12·2 hours over the record for 1928 and 111·0 hours over the average record for the previous five years. The sunniest month was May with a mean daily average of 6·05 hours of bright sunshine, and the darkest month January with a mean daily average of 0·48 hours. The mean daily average for the whole year was 3·65 hours.

The total rainfall was 20·74 inches as compared with 30·51 inches in 1928 and an average of 29·64 inches in the previous quinquennium. This is the lowest rainfall recorded in the city since 1921 when the total was 18·86 inches. The driest month was February with a total of 0·14 inches and the wettest December with a total of 4·43 inches. Taking the four quarters of the year, the rainfall for the first quarter was 2·12 inches ; in the second, 2·95 ; in the third, 4·28 ; and in the fourth, 11·39.

The month with the highest average temperature was July with 64·83 degrees and the lowest February with 33·98 degrees. In February the temperature reached the low level of 21 degrees, and though the cold spell was short lived it entailed a considerable amount of suffering especially to old people.

**National Health Insurance Acts.**—The total number of persons insured in the city under the National Health Insurance Acts on December 31st, 1929 was 213,855 as compared with 214,245 on January 1st. The number of doctors, including assistants, on the panel at the end of the year was 235 and the number of prescriptions dispensed was 1,143,673.

### VITAL STATISTICS.

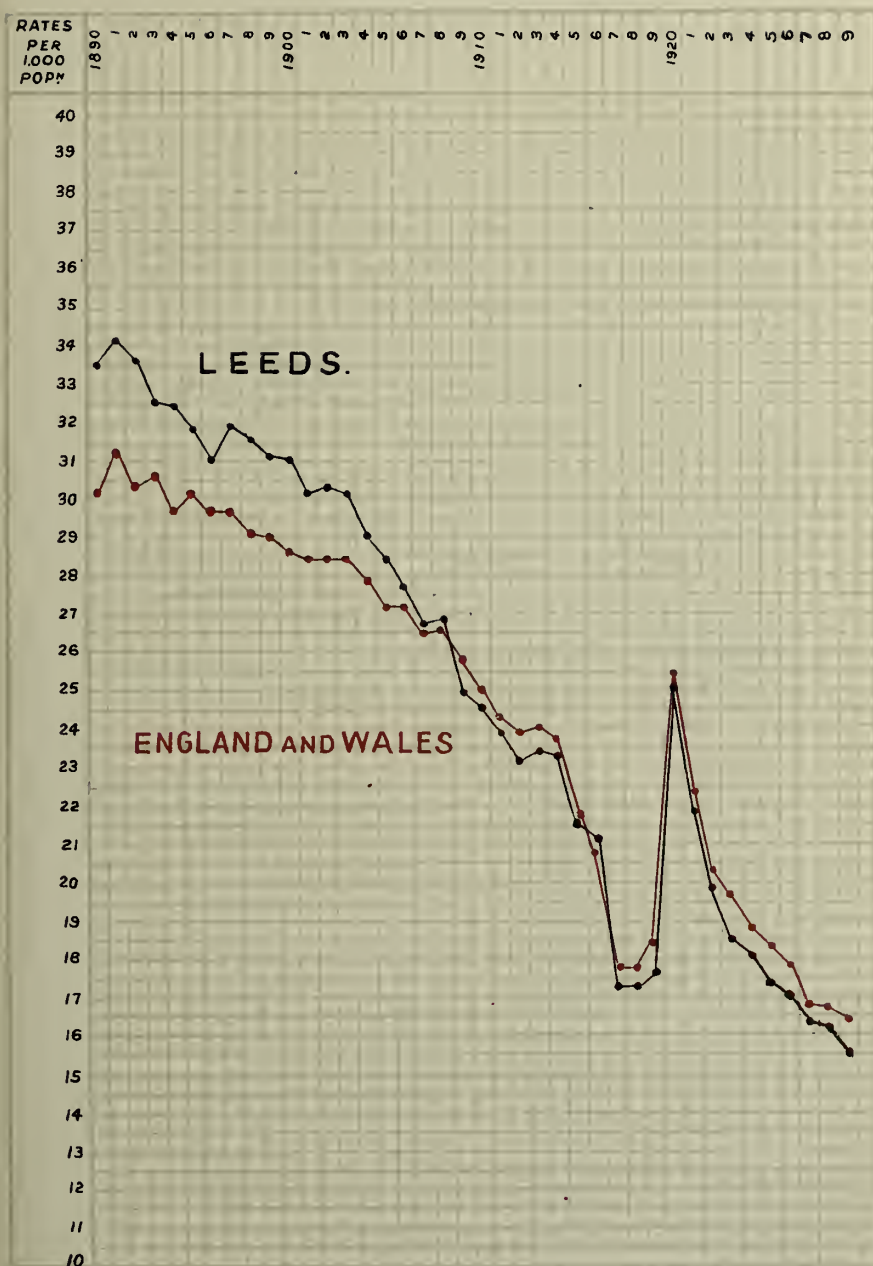
**Marriages.**—The number of marriages which took place in Leeds during the year was 3,976 corresponding to a marriage rate of 16·6 as compared with 16·5 for the previous year, and an average of 17·6 for the previous ten years. The marriage rate of England and Wales for 1929 was 15·8 and for 1928, 15·4.

If one excepts the war years the rate has varied but little in the last two decades. This is of some significance when considered in association with the birth-rate which in the same period has undergone a remarkable shrinkage.

**Births.**—The births registered during the year were 7,725 comprising 3,904 males and 3,821 females. Of these, 196 males and 190 females born to parents not belonging to the city were transferred out, whilst 46 males and 41 females born outside the city to Leeds parents were transferred in, making a nett total of 7,426 births, comprising 3,754 males and 3,672 females. Compared with the previous year this represents a decrease of 194 males and 45 females or a total decrease of 239.

The birth-rate was 15·5 as compared with 16·1 for the previous year and an average of 17·0 for the previous five years. Once again, this constitutes a new record for the city, the rate being the lowest ever recorded. In 1920, the first complete year after the war, the rate was 25·0, since when it has gradually declined. Following the steep descent which took place immediately after the peak year, 1920, the curve has had a tendency to flatten, though as will be noted from the graph opposite page 14 there are years when the rate of descent becomes more pronounced and the year under review was one of those years.

# BIRTH RATE, 1890 - 1929.





Compared with the 12 other large towns in England and Wales Leeds had the lowest rate with the exception of Sheffield and Bradford.

The distribution of the births in the various wards is shown in the table on page 19. In eight of the wards, namely East, New, South, West, East Hunslet, North East, New Wortley and Holbeck, the birth-rate was higher than for the city as a whole, whilst in the remainder, North, Mill Hill, Brunswick, West Hunslet, North West, Headingley, Armley and Wortley, Central and Bramley, it was lower. The wards with the highest rates were East, New and South, all of which were above 19, whilst those with the lowest were Bramley, Central and Armley and Wortley. In six of the wards the rate was below 14 per thousand. In being included amongst the wards with the highest birth-rate, the New ward in 1928 and 1929 achieved a distinction which it never before in its history possessed. The explanation is of course that since the war a number of new housing estates have sprung into existence which has increased the population by more than 30 per cent.

MARRIAGE AND BIRTH-RATES 1911-1929.

Year.	No. of Marriages.	Marriage rate per 1,000 Population.	No. of Births.	Birth-rate per 1,000 Population.
1911	3,717	15·7	10,562	23·8
1912	3,801	16·0	10,309	23·1
1913	3,925	16·4	10,877	23·4
1914	4,008	16·6	10,652	23·3
1915	4,858	20·2	9,877	21·5
1916	3,701	15·5	9,432	21·1
1917	3,300	14·2	7,566	17·3
1918	3,710	15·5	7,392	17·3
1919	5,083	21·2	7,564	17·6
1920	5,620	23·5	11,229	25·0
1921	4,566	18·7	10,144	21·8
1922	4,183	17·2	9,253	19·8
1923	4,001	16·3	8,684	18·5
1924	4,023	16·3	8,558	18·1
1925	3,807	15·4	8,180	17·3
1926	3,644	14·8	8,065	17·0
1927	4,028	16·7	7,790	16·3
1928	3,927	16·5	7,665	16·1
1929	3,976	16·6	7,426	15·5

Last year I called attention to the fact that whereas the marriage rate in Leeds during the last 18 years has, with the exception of 1915 and a few years after the war, hardly varied the birth-rate has steadily declined. The table appended gives the marriage and birth-rates for the years 1911-1929, and it will be noticed that although the marriage rate remained steady in 1929, indeed, showed a slight increase, the birth-rate continued its downward course. The relative position of the marriage and birth rates is better portrayed in a graph showing the two curves when it will be noted that (excepting the year 1920) whilst the former remains practically steady the latter has continued an almost unbroken descent. In 1927, the two curves met and crossed so that we now have the relative position of the two curves transposed. The significance of this will be obvious and I need not enlarge further on it.

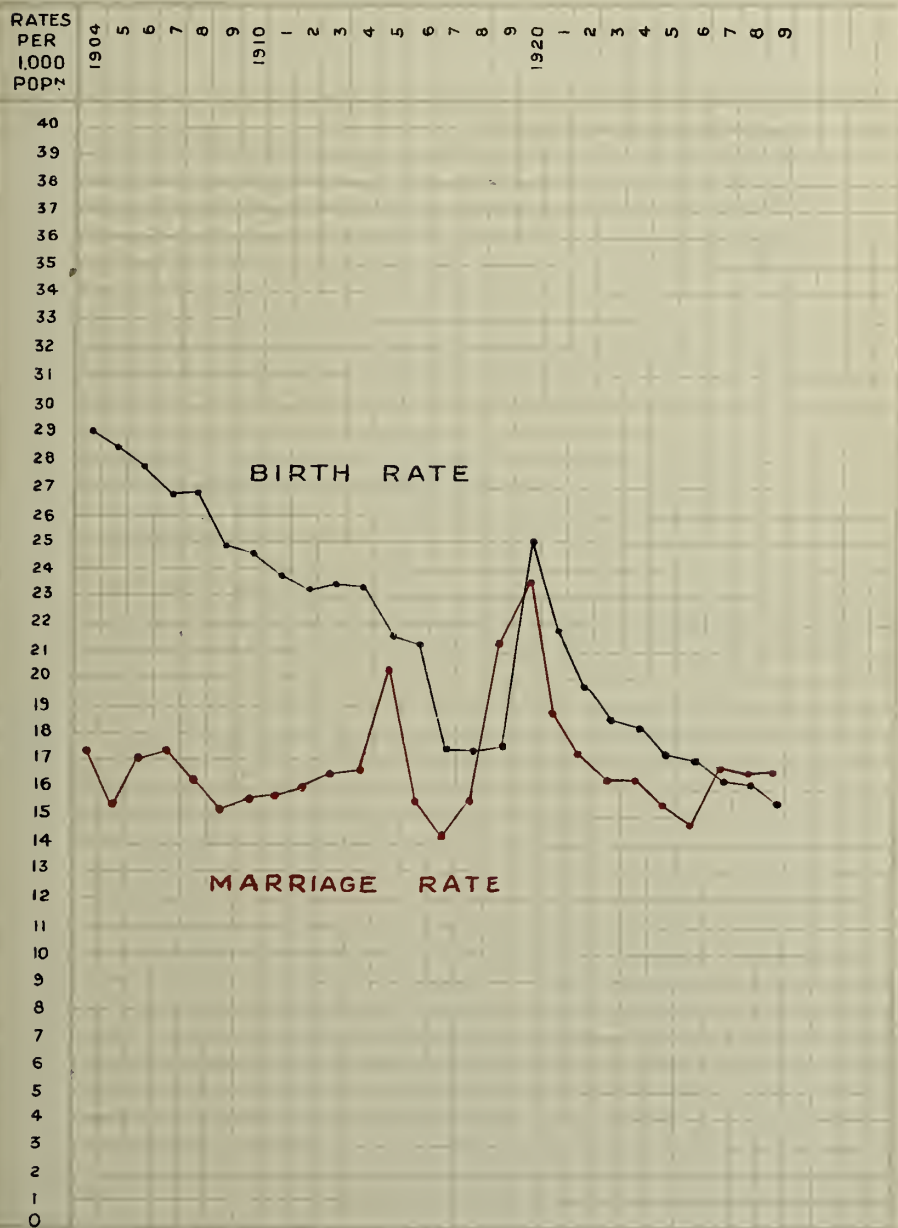
*Birth-Rate in Quarters.*—The highest rate was in the third quarter, 16.22, and the lowest in the fourth, 13.96, whilst in the first and second it was 15.71 and 16.20.

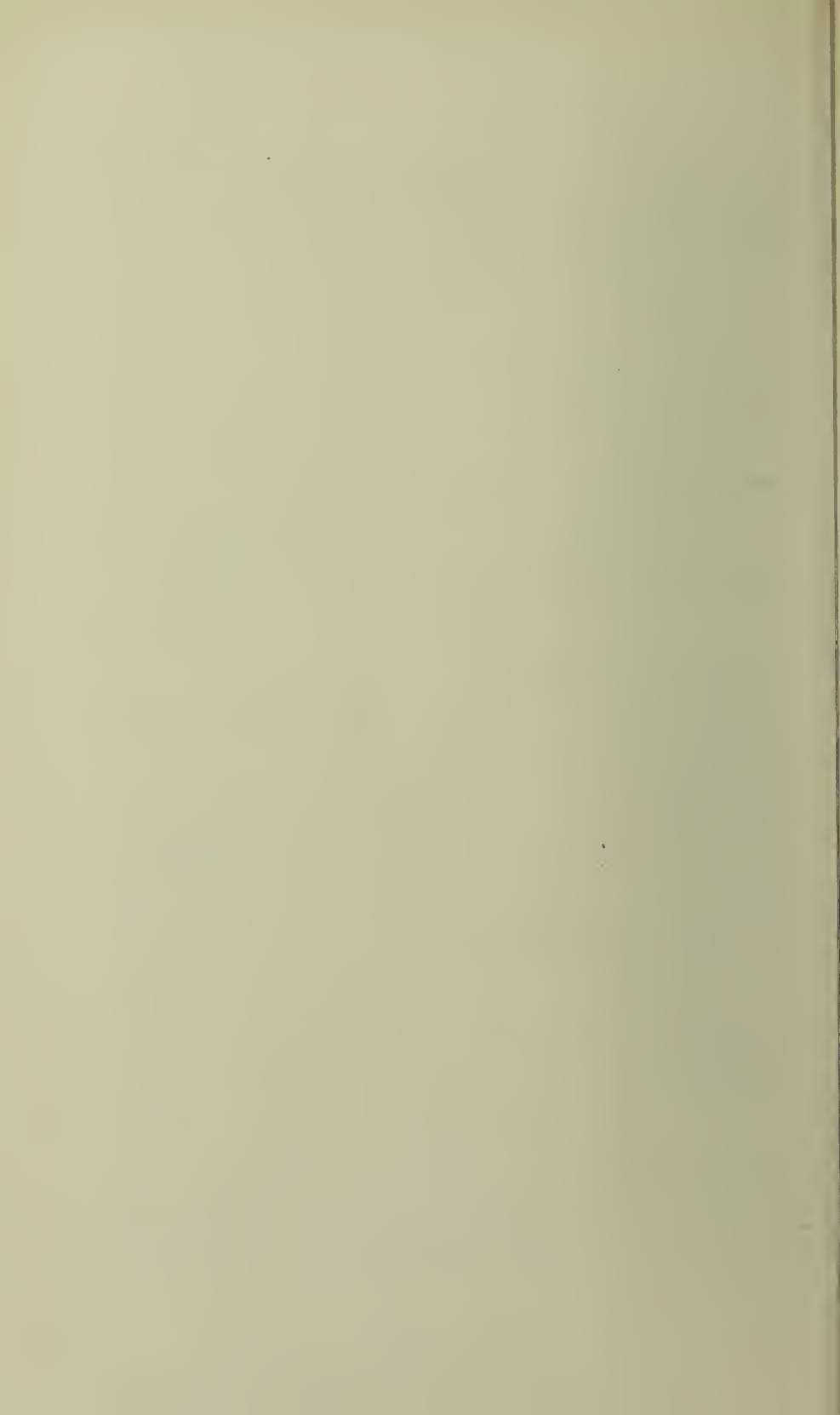
*Excess of Births over Deaths.*—For the first time since 1918 there was no natural increase of population, the deaths outnumbering the births by 472. This unusual occurrence is explained by the fact that the death-rate in 1929 was abnormally high owing to circumstances which will be explained later on in the report, and that at the same time the birth-rate was so low as not to be able to compensate for the loss; in other words the balance which in former years, except 1918, has been on the credit side of the account has been transferred to the debit side. Too much need not be made of the event as it is probably only a passing phase in the history of the vital statistics of the city except that it does show how essential it is to the security of the population, whether of a restricted area like Leeds or the country as a whole, to maintain a sufficient margin of births over deaths. The natural increase of population for the previous year was 1,532 and the average for the previous ten years 2,362. The last occasion when the deaths exceeded the births was in 1918 when there was a severe epidemic of influenza. In that year the deficiency was 1,137.

As in previous years the births have been analysed according to the size of the families into which the children were born. The table appended gives the results of this analysis for the last four years. It will be observed that in 1926, 71.4 per cent. of the births investigated were into families of two children and under, in 1927



# BIRTH RATE AND MARRIAGE RATE. 1904 - 1929







the percentage was 72.0, in 1928, 72.6, and in the year under review it was 73.7. As regards the births occurring in families of more than six children, the percentage in 1926 was 6.2, in 1927, 5.3, in 1928, 5.4, and in 1929, 4.8. These figures confirm the tendency noted in previous reports for the number of small families to increase and large families to decrease. This decrease in fertility, which is probably greater than the above-mentioned figures disclose because we have no knowledge of the number of childless families, is important in that it does prove that the limitation of families, of which one hears so much, is rapidly becoming general throughout the population and that without any special efforts on the part of the Municipality or the State to educate the public in methods of birth control.

In this connection I should also like to draw attention to the paragraph on stillbirths which appears on page 143 of this report.

#### BIRTHS OCCURRING IN ORDER OF SIZE OF FAMILY.

	1926.		1927.		1928.		1929.	
	Births.	Percent- age.	Births.	Percent- age.	Births.	Percent- age.	Births.	Percent- age.
No children..	2,645	33.03	2,633	34.04	2,673	35.32	2,632	35.47
1 child ..	1,924	24.03	1,787	23.11	1,725	22.79	1,771	23.87
2 children..	1,152	14.39	1,148	14.84	1,100	14.53	1,062	14.31
3 " ..	771	9.63	759	9.81	694	9.17	653	8.80
4 " ..	498	6.22	482	6.23	466	6.16	446	6.01
5 " ..	325	4.06	314	4.06	313	4.14	289	3.89
6 " ..	196	2.45	198	2.56	191	2.52	212	2.86
7 " ..	166	2.07	144	1.86	137	1.81	127	1.71
8 " ..	122	1.52	88	1.14	103	1.36	90	1.21
9 " ..	86	1.07	68	0.88	53	0.70	58	0.78
10 " ..	54	0.67	47	0.61	59	0.78	41	0.55
11 " ..	35	0.44	29	0.37	27	0.36	20	0.27
12 " ..	20	0.25	20	0.26	15	0.20	9	0.12
13 " ..	3	0.04	6	0.08	8	0.11	6	0.08
14 " ..	4	0.05	4	0.05	3	0.04	2	0.03
15 " ..	4	0.05	4	0.05	1	0.01	1	0.01
16 " ..	3	0.04	1	0.01	1	0.01	..	..
17 " ..	..	..	2	0.03	..	..	1	0.01
Total births investigated	8,008	100	7,734	100	7,569	100	7,420	100

## BIRTH RATE.

Year.	No. of births.	Birth rate, LEEDS.	England and Wales.
1890-1894 .. ..	62,270	33·2	30·5
1895-1899 .. ..	63,873	31·5	29·6
1900-1904 .. ..	64,791	30·1	28·4
1905-1909 .. ..	59,117	26·9	26·7
1910-1914 .. ..	53,267	23·6	24·2
1915 .. ..	9,877	21·5	21·9
1916 .. ..	9,432	21·1	20·9
1917 .. ..	7,566	17·3	17·8
1918 .. ..	7,392	17·3	17·7
1919 .. ..	7,564	17·6	18·5
1920 .. ..	11,229	25·0	25·5
1921 .. ..	10,144	21·8	22·4
1922 .. ..	9,253	19·8	20·4
1923 .. ..	8,684	18·5	19·7
1924 .. ..	8,558	18·1	18·8
1925 .. ..	8,180	17·3	18·3
1926 .. ..	8,065	17·0	17·8
1927 .. ..	7,790	16·3	16·7
1928 .. ..	7,665	16·1	16·7
1929 .. ..	7,426	15·5	16·3

## BIRTH RATE IN QUARTERS.

	I.	II.	III.	IV.	Year.
1919 .. ..	13·6	14·6	17·5	24·4	17·6
1920 .. ..	30·1	25·6	23·7	20·8	25·0
1921 .. ..	21·9	22·4	22·2	20·7	21·8
1922 .. ..	21·2	20·7	19·5	17·9	19·8
1923 .. ..	18·9	19·5	18·1	17·4	18·5
1924 .. ..	18·7	18·4	18·7	16·8	18·1
1925 .. ..	17·0	19·0	17·5	15·7	17·3
1926 .. ..	17·0	18·5	17·2	15·5	17·0
1927 .. ..	17·0	17·3	15·6	15·4	16·3
1928 .. ..	16·0	17·6	16·1	14·9	16·1
1929 .. ..	15·7	16·2	16·2	14·0	15·5

## BIRTHS AND BIRTH RATE IN WARDS

MUNICIPAL WARD.	Estimated Population middle of 1929.	Nett births.	Birth- rate.	Illegiti- mate births.	Percentage of illegitimate births to total births.
Central .. ..	12,636	162	12·82	13	8·0
North .. ..	44,274	651	14·70	28	4·3
North-East .. ..	36,667	623	16·99	34	5·5
New Ward*	13,812	286	20·71	7	2·4
East .. ..	36,115	772	21·38	24	3·1
South .. ..	12,951	259	20·00	29	11·2
East Hunslet ..	37,957	683	17·99	28	4·1
West Hunslet ..	36,445	496	13·61	29	5·8
Holbeck .. ..	29,692	465	15·66	27	5·8
Mill Hill .. ..	5,274	75	14·22	6	8·0
West .. ..	22,079	408	18·48	40	9·8
North-West .. ..	31,707	421	13·28	38	9·0
Brunswick .. ..	24,006	341	14·20	28	8·2
New Wortley ..	18,009	300	16·66	14	4·7
Armley and Wortley	37,508	489	13·04	21	4·3
Bramley .. ..	24,685	281	11·38	15	5·3
Headingley .. ..	54,683	714	13·06	29	4·1
City .. ..	478,500	7,426	15·52	410	5·5

\* Roundhay, Seacroft, Shadwell, Cross Gates and Templenewsam.

*Illegitimate Births.*—Of the 7,426 (nett) births registered, 7,016 (3,546 males, 3,470 females) or 94·5 per cent. were legitimate and 410 (208 males, 202 females) or 5·5 per cent. were illegitimate. This is the highest percentage of illegitimate births registered in the city since 1922, the average percentage for the previous five years being 5·1. The ratio of illegitimate to legitimate was 1 to 17; last year it was 1 to 19.

#### ILLEGITIMATE BIRTHS.

YEAR.	Illegitimate births.	Percentage of nett births registered.	Rate per 1,000 estimated population.
1919 ..	567	7·5%	1·32
1920 ..	631	5·6%	1·41
1921 ..	565	5·6%	1·21
1922 ..	511	5·5%	1·09
1923 ..	438	5·0%	0·93
1924 ..	423	4·9%	0·90
1925 ..	422	5·2%	0·89
1926 ..	434	5·4%	0·92
1927 ..	371	4·8%	0·78
1928 ..	390	5·1%	0·82
1929 ..	410	5·5%	0·86

Reference to the illegitimate death rate will be found on pages 135 and 137.

*Stillbirths.*—Though the year 1929 was the second complete year of the operation of the new Births and Deaths Registration Act, 1926 which made the registration of stillbirths compulsory, this is the first occasion on which a paragraph dealing with registered stillbirths appears in this report.

The number of stillbirths registered during the year was 417 comprising 227 males and 190 females. The inward transfers

numbered 9, namely 7 males and 2 females, and the outward transfers 57, namely 30 males and 27 females, which after the necessary adjustment leaves a nett total of 369, made up of 204 males and 165 females. The rate per thousand of the population was 0.77 as compared with 0.68 for England and Wales. Expressed as a percentage of the nett total births registered the rate was 4.7. Of the 369 (nett) stillbirths, 346, 191 males and 155 females, or 93.8 per cent. were legitimate and 23, 13 males and 10 females, or 6.2 per cent. were illegitimate. The ratio of registered "still" to registered "live" births was 1 to 20, as compared with 1 to 18 in 1928.

Details respecting the notification and visitation of births are given on page 154, and for information respecting the occurrence of stillbirths in families see page 143.

**Deaths.**—The gross number of deaths registered during the year was 8,289, comprising 4,242 males and 4,047 females, giving a crude death-rate of 17.3 as compared with 13.5 for the previous year and 13.6 for the previous five years. The inward transfers numbered 266, namely 139 males and 127 females, and the outward transfers 657, namely 387 males and 270 females, which after the necessary adjustment, leaves a nett total of 7,898 deaths debitable to the city made up of 3,994 males and 3,904 females. The corresponding nett or recorded death-rate was 16.5 as compared with 12.9 for the previous year and an average of 13.2 for the previous five years. There was therefore an increase in the crude death-rate of 3.8, or 28.1 per cent., over the previous year, and in the nett or recorded death-rate an increase of 3.6, or 27.9 per cent. and 25.0 per cent. over the average of the previous five years. One has to go back to 1918, the year of the great influenza epidemic, to find a year with as high a death-rate as that for 1929. The cause was the abnormal prevalence of influenza and other respiratory infections in the first quarter of the year which will be better appreciated by a study of the analysis of the deaths in quarters given on page 24. But the increased mortality was not restricted to Leeds only, it was general, though Leeds suffered more severely than any of the other large towns in England and Wales. The comparative figures are given in the table on page 34, but to illustrate how heavily hit Leeds was as compared with other cities in the North of England it might be mentioned that the death-rates of Liverpool, Manchester, Sheffield, Hull, Bradford and Newcastle were all lower.

The death-rate for England and Wales for 1929 was 13·4 or 18·8 per cent. less than that of Leeds. It is not unusual for Leeds to compare badly with England and Wales as far as the death-rate is concerned, but in 1929 the discrepancy between the two figures was higher than it has been for 50 years.

#### ANNUAL DEATHS AND DEATH RATE.

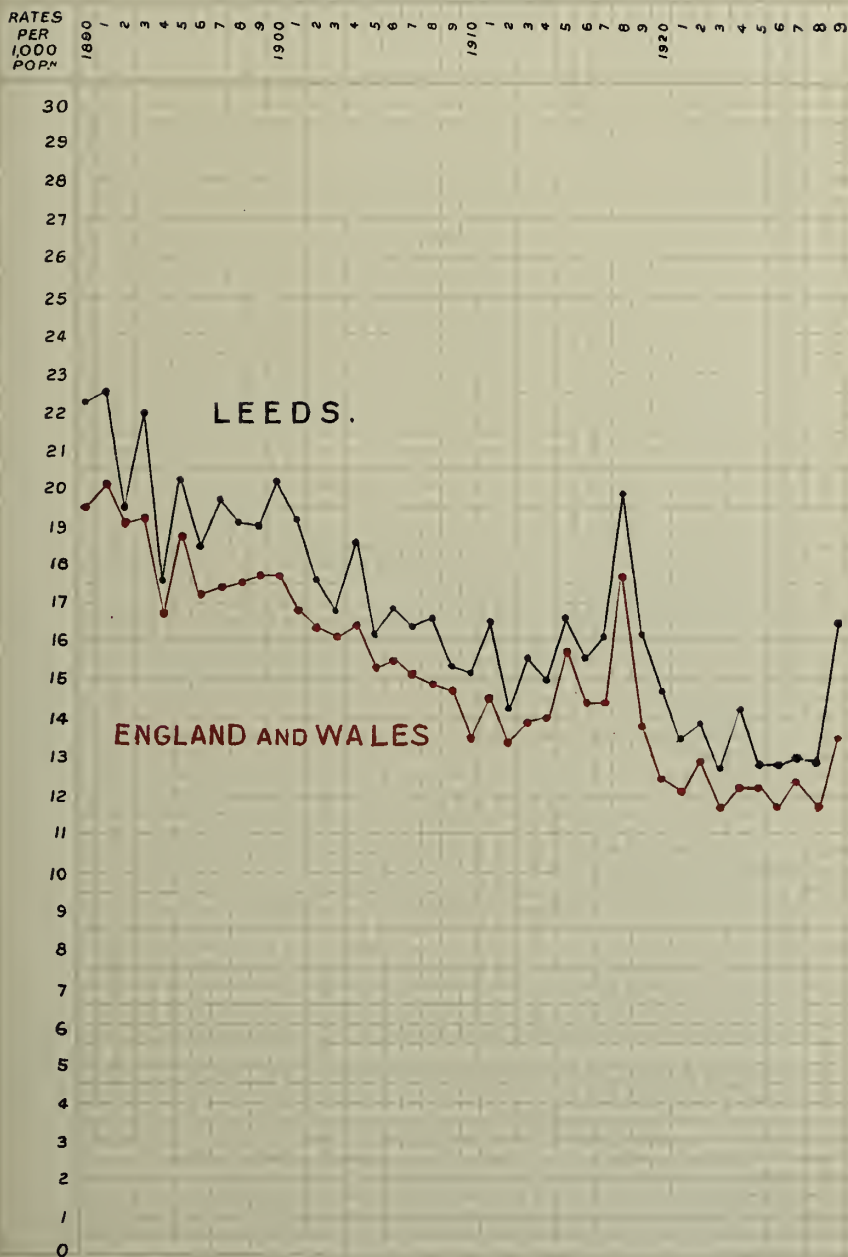
Year.	Population.	Nett deaths.	Death-rate LEEDS.	Death-rate England and Wales.
1901	429,383	8,204	19·2	16·9
1902	431,043	7,699	17·6	16·3
1903	432,703	7,263	16·8	15·5
1904	434,363	8,039	18·6	16·3
1905	436,023	7,047	16·2	15·3
1906	437,683	7,350	16·9	15·5
1907	439,343	7,167	16·4	15·1
1908	441,003	7,430	16·6	14·8
1909	442,663	6,806	15·4	14·6
1910	444,323	6,711	15·2	13·5
1911	445,983	7,331	16·5	14·6
1912	447,746	6,396	14·3	13·3
1913	457,295	7,237	15·6	13·8
1914	459,260	6,885	15·0	14·0
1915	459,260	7,609	16·6	15·7
1916	446,349	6,946	15·6	14·4
1917	438,254	7,052	16·1	14·4
1918	427,589	8,529	19·9	17·6
1919	430,834	6,992	16·2	13·7
1920	448,913	6,591	14·7	12·4
1921	465,500	6,285	13·5	12·1
1922	466,700	6,479	13·9	12·8
1923	469,900	5,986	12·7	11·6
1924	471,600	6,747	14·3	12·2
1925	472,900	6,037	12·8	12·2
1926	473,400	6,062	12·8	11·6
1927	477,600	6,198	13·0	12·3
1928	474,800*	6,133	12·9	11·7
1929	478,500	7,898	16·5	13·4

\* Population adjusted to allow for change in boundary during the year. The mid-year population after the change is 476,500.

*Death-rate in Quarters.*—The death-rate for the first quarter was 29·2, for the second, 14·2, for the third, 11·0, and for the fourth, 11·9. The death-rate in the first quarter (29·2) is the highest recorded for any first quarter of any previous year on record.



# DEATH RATE, 1890 - 1929.







## DEATH RATE IN QUARTERS.

	I.	II.	III.	IV.	Year.
1919 .. ..	25·5	13·1	11·3	15·2	16·2
1920 .. ..	20·6	13·9	11·2	13·1	14·7
1921 .. ..	14·5	12·5	11·3	15·8	13·5
1922 .. ..	17·5	14·6	10·6	12·9	13·9
1923 .. ..	14·7	13·4	10·6	12·4	12·7
1924 .. ..	22·4	12·9	9·9	12·2	14·3
1925 .. ..	14·8	11·4	10·8	14·1	12·8
1926 .. ..	15·7	12·7	9·9	13·1	12·8
1927 .. ..	17·5	12·2	10·1	12·2	13·0
1928 .. ..	14·6	13·0	10·2	13·9	12·9
1929 .. ..	29·2	14·2	11·0	11·9	16·5

*Death-rates in Wards.*—The wards with the highest death-rates were the same as last year, namely, West (21·51), South (18·07) and East (17·89) whilst those with the lowest were Mill Hill (14·03), Armley and Wortley (14·80) and West Hunslet (15·01). The difference between the highest and the lowest, that is West and Mill Hill, amounted to 7·48, or 53·3 per cent., whilst that between the highest and the city was 5·0 or 30·3 per cent. Once again the West ward had the highest death-rate, for which there is no apparent explanation, except that this is one of the most congested wards of the city. During the last twelve years the West ward has had the highest death-rate on eight occasions and on the other four it occupied second place.

*Causes of Death.*—The principal causes of death were in order of numerical importance, organic heart disease, pneumonia, cancer, influenza, bronchitis, arterio sclerosis and pulmonary tuberculosis, which together accounted for 62·5 per cent. of the total deaths. As compared with the previous year, the principal increases were in influenza, pneumonia, heart disease and bronchitis.

Diseases of the respiratory system including pneumonia, influenza and bronchitis, but excluding pulmonary tuberculosis, accounted for 2,037 or 25·8 per cent. of the total deaths from all causes. Last year this group of diseases was responsible for 15·9 per

cent. of the total deaths and the percentage for the previous five years was 19.8. As a consequence of the serious epidemic of influenza which occurred in the first quarter of the year and the susceptibility of young children to lung complaints one naturally expected a high mortality from these causes in the early age groups. The number of children under five years of age who died from respiratory diseases in 1929 was 395, or 31.1 per cent. of the total deaths under five, as compared with 192, or 22.8 per cent., for the previous year.

The following table gives the death rates from influenza and other lung diseases in quarters.

RESPIRATORY DISEASES.  
DEATH-RATES IN QUARTERS AND YEAR.

DISEASES.	I.	II.	III.	IV.	YEAR.
Influenza .. ..	4.38	0.22	0.05	0.16	1.19
Pneumonia (all forms) ..	4.06	1.23	0.68	0.97	1.72
Bronchitis .. ..	3.22	0.59	0.32	0.58	1.17
Other diseases of respiratory organs .. ..	0.33	0.13	0.11	0.15	0.18
Total ..	11.99	2.16	1.16	1.86	4.26

It will be noticed how severe was the epidemic of influenza in the first quarter and how it was accompanied by correspondingly high death-rates from pneumonia, bronchitis and other diseases of respiratory system. The combined death-rate from these diseases in the first quarter was 11.99; in the second, 2.16; in the third, 1.16; and in the fourth, 1.86; making a total death-rate for the year of 4.26. As already mentioned the deaths from respiratory diseases during the year totalled 2,037 and of these 1,415, or 69.5 per cent., occurred in the first quarter.

The subject of influenza is dealt with in greater detail on page 51.

## DEATHS AND DEATH RATE IN WARDS.

MUNICIPAL WARD.	Area in Acres.	Estimated population middle of 1929.	Nett deaths.	Death- rate.
Central .. ..	209	12,636	205	16·22
North .. ..	6,172 $\frac{1}{4}$	44,274	770	17·39
North-East .. ..	1,268	36,667	604	16·47
New Ward* .. ..	8,290 $\frac{1}{2}$	13,812	238	17·23
East .. ..	1,650	36,115	646	17·89
South .. ..	343	12,951	234	18·07
East Hunslet .. ..	3,022 $\frac{3}{4}$	37,957	661	17·41
West Hunslet .. ..	1,414	36,445	547	15·01
Holbeck .. ..	507	29,692	449	15·12
Mill Hill .. ..	233	5,274	74	14·03
West .. ..	291	22,079	475	21·51
North-West .. ..	732	31,707	529	16·68
Brunswick .. ..	498	24,006	390	16·25
New Wortley .. ..	412	18,009	304	16·88
Armley and Wortley ..	1,604	37,508	555	14·80
Bramley .. ..	4,599	24,685	383	15·52
Headingley .. ..	6,860 $\frac{1}{2}$	54,683	834	15·25
City .. ..	38,106	478,500	7,898	16·51

\* Roundhay, Seacroft, Shadwell, Cross Gates and Templenewsam.

## PRINCIPAL CAUSES OF DEATH.

Death rate.	Diseases.	No. of deaths in 1929 (nett).	Increase or decrease compared with 1928.	Houses.	
				Through.	Back-to-back.
0·01	Enteric Fever .. ..	3	+ 2	..	3
..	Small-pox .. ..	..	..	..	..
0·21	Measles .. ..	102	+ 81	21	81
0·06	Scarlet Fever .. ..	29	+ 11	10	19
0·22	Whooping Cough .. ..	107	+ 71	20	87
0·05	Diphtheria .. ..	26	+ 5	10	16
1·19	Influenza .. ..	568	+ 468	224	342
0·04	Erysipelas .. ..	19	- +	7	12
1·06	Pulmonary Tuberculosis ..	508	+ 55	167	338
0·24	Other Tuberculous Diseases	113	+ 24	35	78
1·43	Cancer, malignant disease	684	- 14	292	390
0·09	Rheumatic Fever .. ..	44	- +	21	23
0·07	Meningitis .. ..	33	+ 23	10	23
0·78	Cerebral Hæmorrhage ..	374	+ 37	154	218
2·63	Organic Heart Disease ..	1,259	+ 222	518	734
1·12	Arterio-sclerosis .. ..	535	+ 111	198	332
1·17	Bronchitis .. ..	559	+ 216	207	349
1·72	Pneumonia (all forms) ..	825	+ 340	272	550
0·18	Other diseases of respiratory organs .. ..	85	+ 37	31	53
0·24	Diarrhœa and Enteritis ..	115	- 1	38	77
0·04	Appendicitis and Typhlitis	21	- 5	6	15
0·02	Cirrhosis of Liver .. ..	11	- 11	6	5
0·38	Nephritis and Bright's Disease .. ..	184	+ 9	85	98
0·02	Puerperal Fever .. ..	10	- 4	5	5
0·05	Other accidents and diseases of Pregnancy and Parturition .. ..	23	+ 1	14	9
0·54	Congenital Debility and Malformation, including Premature Birth ..	258	+ 1	79	179
0·44	Violent Deaths, excluding Suicide .. ..	211	+ 1	82	123
0·13	Suicide .. ..	61	+ 5	25	35
2·35	Other Defined Diseases ..	1,124	+ 79	480	641
0·01	Diseases ill-defined or unknown .. ..	7	+ 1	2	5
16·51	Totals .. ..	7,898	+ 1,765	3,019	4,840

Of the 7,898 deaths, 39 had no home.

## CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR, 1929.

CAUSES OF DEATH.	Nett Deaths at the subjoined ages of Residents " whether occurring within or without the District.									Total Deaths whether of "Residents" or "Non-Residents" in Institutions in the District.
	ALL AGES.	Under 1 year.	1 and under 2 years.	2 and under 5 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.	65 and upwards.	
1. Enteric Fever .. ..	3	..	..	..	1	..	2	..	..	3
2. Small-pox .. ..	..	..	..	..	..	..	..	..	..	..
3. Measles .. ..	102	16	41	39	6	..	..	..	..	34
4. Scarlet Fever .. ..	29	1	1	13	7	6	1	..	..	25
5. Whooping Cough .. ..	107	34	39	32	2	..	..	..	..	57
6. Diphtheria .. ..	26	2	2	6	14	1	..	1	..	24
7. Influenza .. ..	568	7	8	16	7	20	72	167	271	55
8. Erysipelas .. ..	19	..	1	1	..	3	3	6	5	19
9. Pulmonary Tuberculosis ..	508	2	4	1	6	132	194	147	22	203
10. Other Tuberculous Diseases	113	8	15	30	16	14	15	14	1	86
11. Cancer, malignant disease	684	1	..	..	..	4	72	312	295	314
12. Rheumatic Fever .. ..	44	1	..	1	12	12	8	8	2	14
13. Meningitis .. ..	33	5	9	5	3	3	3	4	1	17
14. Cerebral Hæmorrhage, &c...	374	..	..	..	1	2	12	117	242	99
15. Organic Heart Disease ..	1,259	..	..	1	8	15	81	429	725	324
16. Arterio-sclerosis .. ..	535	..	..	..	..	..	1	97	437	286
17. Bronchitis .. ..	559	26	5	5	1	4	22	132	364	61
18. Pneumonia (all forms) ..	825	150	113	59	24	37	96	182	164	336
19. Other diseases of respiratory organs .. ..	85	2	2	2	2	2	10	26	39	21
20. Diarrhoea and Enteritis ..	115	71	15	6	1	2	5	5	10	79
21. Appendicitis and Typhlitis	21	..	..	2	4	4	3	5	3	33
22. Cirrhosis of Liver .. ..	11	..	..	..	..	1	..	6	4	5
23. Nephritis and Bright's Disease .. ..	184	..	1	2	5	6	26	69	75	79
24. Puerperal Fever .. ..	10	..	..	..	..	1	9	..	..	26
25. Other accidents and diseases of Pregnancy and Parturition .. ..	23	..	..	..	..	5	18	..	..	26
26. Congenital Debility and Malformation, including Premature Birth .. ..	258	254	2	..	1	..	1	..	..	157
27. Violent Deaths, excluding Suicide .. ..	211	22	6	12	16	27	40	38	50	166
28. Suicide .. ..	61	..	..	..	..	4	21	26	10	12
29. Other Defined Diseases ..	1,124	120	25	25	23	44	135	318	434	631
30. Diseases ill-defined or unknown .. ..	7	..	2	..	..	..	1	4	..	1
Totals .. ..	7,898	722	291	258	160	349	851	2,113	3,154	3,193

*Street Accidents.*—The number of street accidents having a fatal termination during the year was 55 of which 48, or 87·3 per cent., were due to motor vehicles. Last year the number was 58, of which 53, or 91·4 per cent., were due to motor vehicles.

On examining the table appended it will be found that there were 23 deaths amongst children under 15 years and adults over 65 and 32 in the age groups between 15 and 65. Comparing these figures with the figures for the previous year it will be noticed that there was a decrease of one in the number of deaths amongst children and adults over 65 and two in the age groups between 15 and 65.

The following is an extract from the Chief Constable's annual report for the year 1929:—

“ The increase in the number of accidents caused by mechanically propelled vehicles is small, however, when compared with the large number of such additional vehicles placed on the road annually, and there is no doubt that the activities of the Leeds ‘ Safety First ’ Council are reflected in this satisfactory state of affairs. The increase referred to cannot be attributed wholly to the drivers of motor vehicles, but is due in many instances to the careless pedestrian. It must be admitted, however, that there are a few indifferent and reckless drivers of motor vehicles who do not seem to realise the danger of their conduct, and I fear that unless some strong efforts are made to bring the menace prominently to the notice of such persons the number of both fatal and non-fatal accidents will probably increase in the near future.”

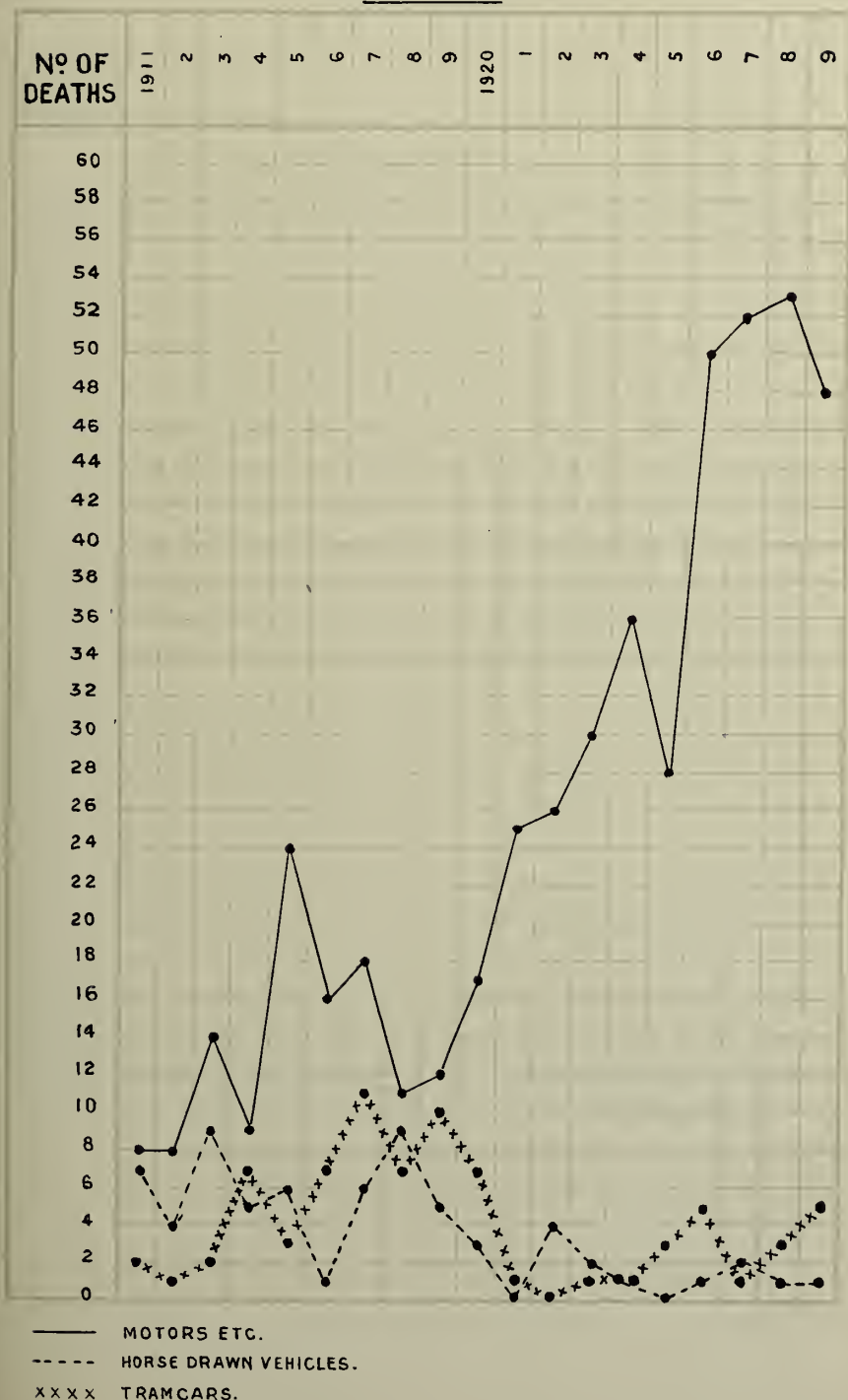
“ Particulars have been collated of fatal and non-fatal accidents at points formerly manned by Police Constables, which are now controlled by automatic traffic signals. There were 11 non-fatal accidents, and 54 where no personal injury was involved, at seven of these points, during the year 1928, as compared with five non-fatal accidents and 27 where no personal injury was sustained during the year under review.”

“ Accidents at crossings controlled by automatic signals are very rare, and it can be claimed that these installations have considerably increased the safety of the streets at the intersections where they are erected and in the immediate vicinity thereof.”

# LEEDS.

## DEATHS FROM VEHICULAR TRAFFIC.

— 1911 - 1929. —









DEATHS FROM VEHICULAR TRAFFIC OF LEEDS PEOPLE IN AGE  
GROUPS, 1911-1929.

Year.	-5	5-15	15-25	25-45	45-65	65+	Totals.
1911	4	6	2	2	1	2	17
1912	2	3	2	3	2	2	14
1913	1	5	2	6	9	5	28
1914	1	2	4	4	7	7	25
1915	1	11	2	5	8	7	34
1916	2	4	2	3	10	6	27
1917	4	8	3	7	8	7	37
1918	3	4	3	2	11	6	29
1919	1	8	—	1	13	7	30
1920	—	3	6	8	5	5	27
1921	3	9	3	3	1	7	26
1922	3	10	2	5	8	2	30
1923	2	6	7	7	12	6	40
1924	5	9	6	5	7	7	39
1925	5	7	6	5	6	5	34
1926	6	12	7	8	17	12	62
1927	4	20	9	6	13	5	57
1928	2	10	6	14	14	12	58
1929	2	11	13	10	9	10	55

*Housing and Death.*—Of the total deaths which occurred in Leeds during the year 4,840, or 61·3 per cent., occurred in back-to-back houses, 3,019 or 38·2 per cent., in throughs, whilst 39, or 0·5 per cent., had no fixed domicile. The ratio of through houses to back-to-backs is 1 to 1·6.

*Deaths in Age Groups.*—The table on page 31 sets out the deaths according to age groups. The age group showing the greatest decrease was 45-65 and the one with the greatest increase, 1-2. The number of deaths of children in the age groups 0-1, 1-2, and 2-5 was 1,271, or 16·1 per cent. of the total deaths, as compared with 841 deaths, or 13·7 per cent., for the previous year and 993 deaths, or 16·0 per cent., for the year 1927. In the last two annual reports I recorded a decrease in the number of deaths of children under five years of age, in the year under review, for reasons indicated elsewhere in this report, there was an increase. A further analysis of the table shows that the deaths of persons under 45 years numbered 2,631, or 33·3 per cent. of the total deaths, as compared with 1,951 deaths, or 31·8 per cent., for the previous year. At the end of an intercensal period our knowledge of the distribution of the population in age groups must be very imperfect, so that it is impossible to estimate the effect of the loss by death sustained by these groups on the age constitution of the population as a whole.

COMPARISON OF PERCENTAGES OF DEATHS IN THE VARIOUS AGE GROUPS OF 1929, AS COMPARED WITH THE PREVIOUS DECENNIUM.

Period.	-1	1-2	2-5	5-15	15-25	25-45	45-65	65+
1919—1928 ..	13·4	3·5	3·0	3·1	4·4	12·1	26·5	34·0
Year 1929 ..	9·1	3·7	3·3	2·0	4·4	10·8	26·8	39·9
Decrease -	-4·3	—	—	-1·1	—	-1·3	—	—
Increase +	—	+0·2	+0·3	—	—	—	+0·3	+5·9

*Infant Mortality.*—The number of deaths of children under one year numbered 722 or 9·1 per cent. of the total deaths. The infant mortality rate corresponding was 97 per thousand births or 18 more than the previous year (79) and 6 more than the average for the previous five years (91).

This subject is dealt with in detail on page 129.

## DEATHS IN AGE GROUPS (NETT), 1919-29.

Together with the percentage of the total deaths, represented by each group  
(in italics).

Year.	Under 1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
1919	899 <i>12.9%</i>	239 <i>3.3%</i>	298 <i>4.3%</i>	299 <i>4.3%</i>	344 <i>4.9%</i>	957 <i>13.7%</i>	1,780 <i>25.4%</i>	2,176 <i>31.2%</i>	6,992
1920	1,232 <i>18.7%</i>	255 <i>3.9%</i>	283 <i>4.3%</i>	283 <i>4.3%</i>	291 <i>4.4%</i>	844 <i>12.8%</i>	1,572 <i>23.9%</i>	1,831 <i>27.8%</i>	6,591
1921	997 <i>15.9%</i>	278 <i>4.4%</i>	130 <i>2.1%</i>	202 <i>3.2%</i>	297 <i>4.7%</i>	765 <i>12.2%</i>	1,562 <i>24.9%</i>	2,054 <i>32.7%</i>	6,285
1922	935 <i>14.4%</i>	283 <i>4.4%</i>	211 <i>3.3%</i>	198 <i>3.1%</i>	282 <i>4.4%</i>	766 <i>11.8%</i>	1,661 <i>25.6%</i>	2,143 <i>33.1%</i>	6,479
1923	773 <i>12.9%</i>	189 <i>3.2%</i>	153 <i>2.6%</i>	166 <i>2.8%</i>	277 <i>4.6%</i>	751 <i>12.5%</i>	1,620 <i>27.1%</i>	2,057 <i>34.4%</i>	5,986
1924	921 <i>13.7%</i>	270 <i>4.0%</i>	202 <i>3.0%</i>	173 <i>2.6%</i>	275 <i>4.1%</i>	786 <i>11.6%</i>	1,804 <i>26.7%</i>	2,316 <i>34.3%</i>	6,747
1925	748 <i>12.4%</i>	177 <i>2.9%</i>	161 <i>2.7%</i>	159 <i>2.6%</i>	297 <i>4.9%</i>	709 <i>11.7%</i>	1,657 <i>27.4%</i>	2,129 <i>35.3%</i>	6,037
1926	748 <i>12.3%</i>	206 <i>3.4%</i>	190 <i>3.1%</i>	158 <i>2.6%</i>	251 <i>4.1%</i>	676 <i>11.2%</i>	1,658 <i>27.4%</i>	2,175 <i>35.9%</i>	6,062
1927	629 <i>10.1%</i>	204 <i>3.3%</i>	160 <i>2.6%</i>	183 <i>3.0%</i>	246 <i>4.0%</i>	714 <i>11.5%</i>	1,711 <i>27.6%</i>	2,351 <i>37.9%</i>	6,198
1928	606 <i>9.9%</i>	122 <i>2.0%</i>	113 <i>1.8%</i>	155 <i>2.5%</i>	230 <i>3.8%</i>	725 <i>11.8%</i>	1,792 <i>29.2%</i>	2,390 <i>39.0%</i>	6,133
1929	722 <i>9.1%</i>	291 <i>3.7%</i>	258 <i>3.3%</i>	160 <i>2.0%</i>	349 <i>4.4%</i>	851 <i>10.8%</i>	2,113 <i>26.8%</i>	3,154 <i>39.9%</i>	7,898

**Cremation.**—Out of a total of 7,898 deaths which occurred in the city during 1929 the number of bodies disposed of by cremation was 36 or 0·46 per cent. Though this represents an increase of five over the figure for 1928 it is nevertheless disappointingly small. Why the public should continue to neglect cremation as a form, and from a hygienic point of view the best form, of disposal is hard to explain. In other parts of the country there is certainly the same reluctance to abandon the old method of earth burial, but nothing like so pronounced as in Leeds. One would have thought that with the growth of knowledge and the ever increasing interest taken in matters relating to the public health, the advantages of cremation over the older method of earth burial would have made a wider appeal and attracted more support especially from the better educated classes. As is usual with any reform, there is always at its inception a dead weight of ignorance, prejudice, and sentiment to overcome before it becomes generally accepted, and progress is probably slower with a reform which has to do with the disposal of the human body after death than with one which affects the living. It has been stated that the amount of formalities to be observed before cremation can take place, and the expense involved, account for the slow progress made. But if one examines the position impartially, one finds that these objections have very little real foundation. Formalities there must be, and expense is unavoidable, but disposal in the traditional way by earth burial is not free from either, indeed as far as expense is concerned, cremation is probably the cheaper. What the public have to appreciate is the ever increasing difficulty of finding land in, and in the vicinity of, large cities for gardens, parks, open spaces and for sites for dwelling houses, and to consider whether it is in the interest of the inhabitants of these cities that so much valuable land should be devoted to cemeteries and graveyards. The claims of the living are surely not less important than those of the dead, though in this country at least it is not always apparent that this is recognised.

I make no apology therefore for renewing my appeal to the citizens to give more thought to this important question.

## CREMATIONS IN LEEDS, 1905-1929.

Year.				No. of Leeds people cremated.	Nett total deaths in City.	Percentage of cremations on nett deaths (Leeds people cremated).
1905	..	..	..	7	7,047	0·10
1906	..	..	..	10	7,350	0·14
1907	..	..	..	12	7,167	0·17
1908	..	..	..	16	7,430	0·22
1909	..	..	..	9	6,806	0·13
1910	..	..	..	5	6,711	0·07
1911	..	..	..	7	7,331	0·10
1912	..	..	..	14	6,396	0·22
1913	..	..	..	7	7,237	0·10
1914	..	..	..	18	6,885	0·26
1915	..	..	..	13	7,609	0·17
1916	..	..	..	9	6,946	0·13
1917	..	..	..	10	7,052	0·14
1918	..	..	..	23	8,529	0·27
1919	..	..	..	18	6,992	0·26
1920	..	..	..	13	6,591	0·20
1921	..	..	..	9	6,285	0·14
1922	..	..	..	17	6,479	0·26
1923	..	..	..	11	5,986	0·18
1924	..	..	..	24	6,747	0·36
1925	..	..	..	26	6,037	0·43
1926	..	..	..	14	6,062	0·23
1927	..	..	..	32	6,198	0·52
1928	..	..	..	31	6,133	0·51
1929	..	..	..	36	7,898	0·46
Total	..	..	..	391	171,904	0·23

## Comparative Statistics of the larger English Cities, 1929.

	RATE PER 1,000 POPULATION.					DEATH RATE PER 1,000 BIRTHS.	
	Population.	Birth Rate.	Death Rate.	Phthisis Death Rate.	Other Tuberculosis Rate.	Deaths under One Year.	Diarrhoea and Enteritis under 2.
London ..	4,430,000 4,417,900	15·8	14·2	0·96	0·13	71	11·0
Birmingham ..	981,000	17·1	13·5	0·94	0·15	79	13·9
Liverpool ..	872,802	21·6	15·1	1·21	0·25	96	20·7
Manchester ..	770,655	16·9	15·3	1·21	0·20	97	13·7
Sheffield ..	518,000	15·4	13·2	0·79	0·16	87	6·8
Leeds ..	478,500	15·5	16·5	1·06	0·24	97	11·6
Bristol ..	391,300 391,000	15·6	13·0	1·04	0·17	60	4·4
West Ham ..	307,600	18·7	12·7	0·97	0·14	74	9·8
Hull ..	299,900	20·3	15·2	1·04	0·20	104	21·8
Bradford ..	289,200	15·0	15·6	0·84	0·17	80	5·5
Newcastle ..	283,400	18·1	13·8	1·09	0·26	85	16·9
Stoke-on-Trent	279,100	19·0	15·4	1·04	0·19	105	12·6
Nottingham ..	266,800	17·0	15·3	1·06	0·19	96	16·5

# Infectious and Other Diseases

BY

ARTHUR MASSEY, M.D., Ch.B., D.P.H., *Chief Assistant Medical Officer of Health.*

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A complete summary of all cases of notifiable infectious diseases notified to this Department during the year under review will be found in the Appendix (Table II.).

The first quarter of 1929 saw the final phase of the very extensive scarlatina epidemic which started in the city during 1928, and carried over into the following year.

There were 24 cases of smallpox notified during the year; these cases represent the sum total of several small outbreaks all of which quickly yielded to the measures of control applied.

In view of the low incidence of measles in 1928, the increase in this disease noted during 1929 was not unexpected. The mortality from both measles and whooping cough rose considerably as compared with the previous year.

The incidence of diphtheria declined as compared with the previous year whilst the mortality was correspondingly low, the Leeds death-rate being only 0.05.

The epidemic of influenza which swept the country during the early part of 1929 was experienced in full force in Leeds during the months of February and March. No less than 568 deaths, or 7.2 per cent. of the total deaths were attributable to this disease.

Pneumonia was also very prevalent in the city during the early part of the year and both the attack rate and the mortality rate showed a marked increase. The unusually severe winter of 1928-1929, had undoubtedly something to do with this, whilst the concurrent prevalence of influenza was an important contributory factor.

There was a small increase in the number of cases of typhoid fever notified during the year. This was probably due to the dry summer and the consequent water shortage.

These are some of the more notable features of the detailed report given in the following pages.





## SEASONAL INCIDENCE.

Jan.	Feb.	March.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.
1	4	11	4	—	1	1	—	2	—	—	—

The seasonal incidence (*vide* table) demonstrates the usual preference of smallpox for the first half of the year.

*Vaccinal State.*—Of the 24 cases, 12 were vaccinated and 12 unvaccinated persons. No vaccinated person under 21 years of age nor any re-vaccinated person of any age was affected.

In connection with the 24 cases above-mentioned, 245 contacts were vaccinated or re-vaccinated by the Public Vaccinators. No vaccinations or re-vaccinations were performed by the Public Health staff under the Public Health (Smallpox Prevention) Regulations 1917.

The number of routine primary vaccinations of infants by Public Vaccinators during the year was 2,738 or 36.9 per cent. of the nett births registered.

*Isolation or Observation of Contacts.*—Two contacts were admitted to the isolation cottages at Seacroft for detention there during the quarantine period and, of these, one developed smallpox. During the year 559 contacts were kept under observation over an appropriate period in their homes or workplaces; these included 111 Leeds persons who had been in contact with smallpox in other towns.

*Cases referred for second opinion.*—During the year 73 cases were referred as “doubtful smallpox” by general medical practitioners for the opinion of the Department. The cases were found to be as follows:—smallpox 10; chickenpox 37; vaccinia 4; scabies 5; impetigo 1; erythema 1; urticaria 1; other conditions 14.

**Chickenpox.**—The number of cases of chickenpox notified during the year was 2,545, as compared with 1,717 for the previous year. Each case was visited and reported upon by a member of the staff. The writer visited 57 selected cases and found 6 to be smallpox. In November 1929, chickenpox was made notifiable in Leeds for a further period of twelve months.

**Diphtheria.**—The number of cases notified during 1929 was 536 with a case-rate of 1·12 as compared with 634 and 1·34 respectively for the previous year. There were 26 deaths equivalent to a death-rate of 0·05. Of the total cases notified 94·2 per cent. were treated in hospital.

*Immunization against Diphtheria.*—Parents have availed themselves but little of the facilities provided at the Central Welfare Clinic for the immunization of children of pre-school age against diphtheria. During the year only 73 children were so treated. The Schick method of protection is safe and reliable and an appeal is here made to all parents seriously to consider whether in refraining from taking advantage of the facilities offered they are consulting the best interests of their children and the public. Information on the subject will gladly be given on application at any Welfare Centre in the city or at the Public Health Department, Market Hall.

*An interesting Outbreak of Diphtheria.*—During February and March 1929 an outbreak of diphtheria occurred among the nursing staff of Wyther Infants' Hospital. The outbreak was small being confined to seven nurses, but it is worthy of record owing to its unusual origin in a case of skin diphtheria. The outbreak was investigated by Dr. Gladys Russell and the writer, and an account of it by them was given in the *British Medical Journal* of June 1st, 1929, and is reproduced below, viz. :—

#### A Case of Cutaneous Diphtheria as the cause of an Outbreak :—

To Chomel is credited the first reference to dermatitis diphtheritica in 1759. Some seventy years later Trousseau made fuller investigation of the disorder. Neisser first explored the condition bacteriologically. Jenner<sup>1</sup> mentions a case of diphtheritic infection supervening upon a chronic pemphigus, also two cases of ulcer of the leg with superimposed diphtheria. Slater<sup>2</sup> recorded a case of chronic cutaneous diphtheria. Knowles and Frescoln<sup>3</sup> collected reports of cutaneous diphtheria cases, which incidentally illustrate the diversity of clinical appearances capable of being presented by the condition. Barber and Knott<sup>4</sup> and later, Perry<sup>5</sup> described cases of chronic diphtheritic ulceration of the skin. Greenbaum<sup>6</sup> contributed a case of primary cutaneous diphtheria of the face. Goodall and Washbourn<sup>7</sup> mention cases of primary dermatitis diphtheritica affecting the fingers. The invasion of wounds by Klebs-Loeffler bacilli is a rare occurrence to-day though at one time not so uncommon.

Dermatitis diphtheritica may be primary or secondary. A breach in continuity of the skin is a necessary antecedent.

The case now recorded was secondary to a faucial diphtheria and infection was by auto-inoculation affecting a small area of intertrigo situated behind the right ear. The case was responsible for the outbreak of faucial diphtheria outlined below.

The outbreak comprised seven cases, all of whom were nurses employed at the Wyther Infants' Hospital, Leeds. The bacteriological findings, in respect of the patients and domestic staff of the institution, were negative throughout.

The sequence of cases was as follows:—

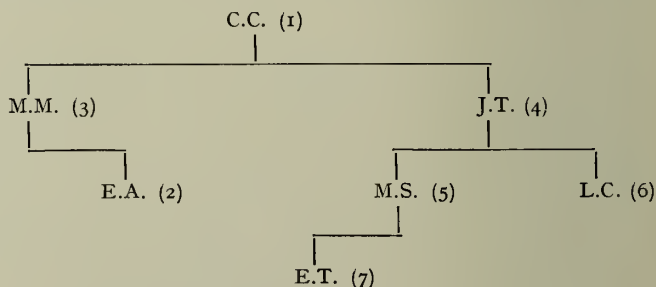
Case.	Patient.	Date admitted to Isolation Hospital.	Bedroom previously occupied at Wyther.	Ward in which engaged at Wyther.	Remarks.
1	C.C.	23.12.28	No. 1	A.	Clinical diphtheria. Re-sumed duty at Wyther on 20.1.29.
2	E.A.	15.2.29	No. 1	A.	Clinical diphtheria.
3	M.M.	17.2.29	No. 7	A.	Non-clinical diphtheria.
4	J.T.	2.3.29	Sisters' Separate Room	A.	Clinical diphtheria.
5	M.S.	4.3.29	No. 7	A.	Non-clinical diphtheria.
1	C.C.	Re-admtd. 6.3.29	No. 1	A.	Cutaneous diphtheria (see below).
6	L.C.	7.3.29	Lodgings Separate Block.	B.	Clinical diphtheria. Nursed Case 4.
7	E.T.	8.3.29	No. 7	A.	Non-clinical diphtheria.

Case 1 (C.C.) appears as the central figure in the outbreak. She was admitted to isolation hospital on 23.12.28 suffering from faucial diphtheria. On discharge, she resumed nursing duties at Wyther on 20.1.29. The outbreak proper began with case 2 on 15.2.29, that is to say 26 days subsequent to the return to duty of Case 1. Other cases followed and on 5.3.29, during the course of investigation, Case 1 was found to have an area of intertrigo behind the right ear; it now transpired that this condition had obtained but had escaped notice at the time of discharge from isolation hospital on 20.1.29. The affected area of skin showed no outward manifestation of diphtheritic infection, but nevertheless a swab was taken therefrom and was reported upon the following day as follows: "bacilli present morphologically resembling K.L.B." A

subsequent virulence test gave the following result: "On the third day there was a slight erythema around the site of inoculation; the sugar reactions were positive for K.L.B., the result suggests an organism of low virulence." Throat and nose swabs proved negative. Here then was a case of cutaneous diphtheria which the available evidence indicated as the source of infection. The case was re-admitted to isolation hospital on 6.3.29.

The lapse of 26 days between the return of Case 1 from isolation hospital and the subsequent occurrence of the next clinical Case 2 has to be explained. In this connection, Case 3 might well have been infected first by Case 1, for being a non-clinical case, she was only discovered in the course of a general swabbing following the removal of Case 2 on 15.2.29. Moreover, there might conceivably have been delay in the assumption of activity by the organisms of the original case. Case 3 was removed on 17.2.29. At this juncture the swabs of all others were negative. On 2.3.29—13 days after removal of Case 3—Case 4 was removed with clinical diphtheria and a further general swabbing revealed Case 5 as a non-clinical diphtheria and she was removed on 4.3.29. As related above, Case 1 was exposed on 6.3.29 as a case of cutaneous diphtheria and was re-admitted to hospital. Cases 6 and 7 followed on 7.3.29 and 8.3.29 respectively and there the outbreak ended. Case 6 probably contracted infection from Case 4 whom she had nursed prior to removal.

There appears to be no doubt that Case 1 gave origin to the outbreak. Owing to the occurrence of certain non-clinical cases in whom the date of initial infectivity was not determinable, it is difficult to outline the passage of infection from case to case, although it is essayed to do so in the tree below, viz.:



#### REFERENCES.

- <sup>1</sup> JENNER. *Lectures and essays on Fevers and diphtheria*. 1849-1879, p. 527.
- <sup>2</sup> SLATER. *Lancet*, 1908, I, 15.
- <sup>3</sup> KNOWLES AND FRESCOLN. *Jour. A.M.A.*, 1914, LXIII., p. 398.
- <sup>4</sup> BARBER AND KNOTT. *Brit. Journ. Dermat.*, 1920, XXXII., p. 71.
- <sup>5</sup> PERRY. *Jour. R.A.M.C.*, 1924, XLII., p. 344.
- <sup>6</sup> GREENBAUM. *Amer. Jour. Dis. Child.*, 1924, XXVIII., p. 51.
- <sup>7</sup> GOODALL AND WASHBURN. *Infect. Dis.*, 1928, VII., p. 172.

## DIPHTHERIA AND MEMBRANOUS CROUP.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1919	811	1·88	43	0·10	0·13
1920	885	1·97	64	0·14	0·15
1921	665	1·43	38	0·08	0·13
1922	470	1·01	28	0·06	0·11
1923	368	0·78	20	0·04	0·07
1924	289	0·61	27	0·06	0·06
1925	422	0·89	39	0·08	0·07
1926	374	0·79	26	0·05	0·08
1927	439	0·92	28	0·06	0·07
1928	634	1·34	21	0·04	0·08
1929	536	1·12	26	0·05	0·08

**Scarlet Fever.**—No fewer than 3,473 cases of scarlatina were notified in Leeds during 1929 as compared with 3,515 in 1928. In last year's Annual Report a full account appears of the epidemic which occurred in the city during the autumn and winter of 1928. This epidemic carried through into 1929 and continued until March. Even after that date the decline in the incidence of the disease was tardy. The usual increase in prevalence occurred in the last quarter of the year. The accompanying table shows the numbers of cases notified month by month. Of the 3,473 cases notified, 3,035, or 87·4 per cent., were treated in hospital. In addition to the 3,035 cases removed, 40 cases notified in 1928 were removed to hospital in 1929.



## SCARLET FEVER NOTIFIED MONTH BY MONTH. 1929.

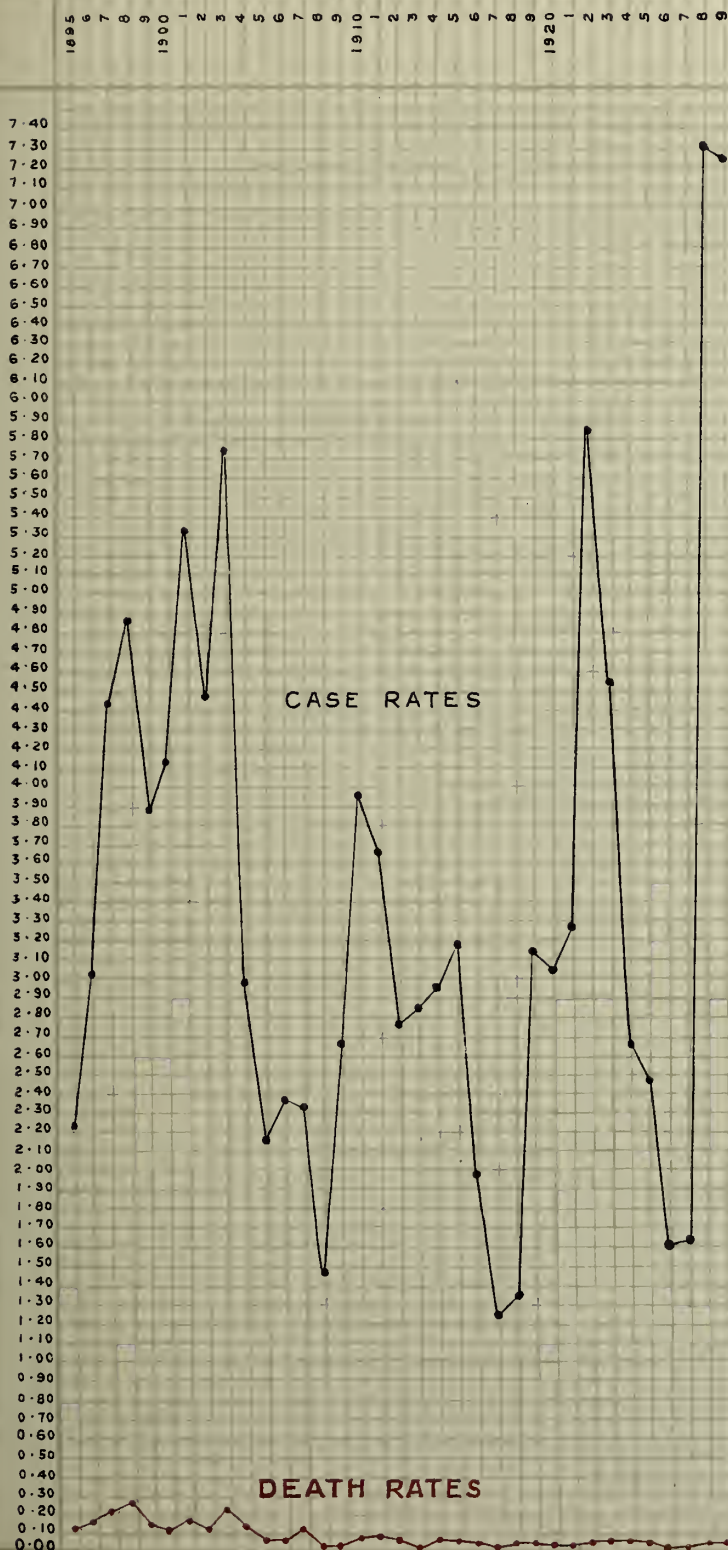
		Cases Notified.	Removed to Hospital.	Percentage removed to Hospital.	Deaths.
January	..	498	355	71·3	4
February	..	387	281	72·6	4
March	.. ..	363	303	83·5	4
April	.. ..	196	183	93·4	2
May	.. ..	274	255	93·1	2
June	.. ..	233	225	96·6	2
July	.. ..	229	218	95·2	1
August	.. ..	243	228	93·8	2
September	..	220	211	95·9	3
October	..	223	209	93·7	2
November	..	335	317	94·6	2
December	..	272	250	91·9	1
YEAR..	..	3,473	3,035	87·4	29

The epidemic of 1928 necessitated additional hospital provision. On November 2nd of that year the Department by arrangement with the Leeds Board of Guardians, took over temporarily the Infirmary block of the Holbeck Workhouse. This was handed back to the Board of Guardians on March 4th of the year under review, when the number of new cases requiring hospital treatment had fallen to a figure within the compass of our own resources. Since then, although the incidence of scarlatina has remained high, the accommodation at Seacroft Hospital has proved adequate.

The number of deaths from scarlet fever during 1929 was 29, equivalent to a death-rate of 0·06, as compared with 18 deaths and



# SCARLET FEVER CASE AND DEATH RATES 1895 - 1929.





a death-rate of 0.04 for 1928. The type of disease was generally mild although here and there more severe cases occurred. There can be no doubt that mild unrecognised cases were largely responsible for spreading the disease and many of these were actually established upon investigation of subsequent cases. During the year the writer saw, at the request of general medical practitioners, and diagnosed, 41 cases of atypical scarlet fever.

*Return Cases.*—There were 91 return cases reported during the year which is equal to 3.0 per cent. of the cases admitted to hospital, not a large number when one considers the extent and nature of the epidemic. Still at one period in the year when there was a run of these cases their number did cause us concern and an effort was made to tighten up the control but without much effect. The problem of the return case is one of the riddles of fever hospital practice and one which up to the present has defied solution. Nine of the primary cases were re-admitted to hospital for further treatment.

This subject is further dealt with on page 64.

#### SCARLET FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1919	1,340	3.11	23	0.05	0.03
1920	1,363	3.04	17	0.04	0.04
1921	1,526	3.28	14	0.03	0.03
1922	2,722	5.83	33	0.07	0.04
1923	2,134	4.54	31	0.07	0.03
1924	1,256	2.66	20	0.04	0.02
1925	1,166	2.47	15	0.03	0.03
1926	756	1.60	5	0.01	0.02
1927	773	1.62	6	0.01	0.01
1928	3,515	7.40	18	0.04	0.01
1929	3,473	7.26	29	0.06	0.02

**Measles and German Measles.**—The total number of cases of both diseases notified in 1929 was 10,742 as compared with 3,679 in 1928 and 8,664 in 1927. Following upon the break of sequence noted in 1927, the incidence of the disease has resumed its usual tendency to increase and decrease in alternate years (see Table). During 1929, measles accounted for 102 deaths equivalent to a death-rate of 0·21, compared with 21 deaths and a death-rate of 0·04 for 1928. Of the 10,742 cases notified, 206 or 1·9 per cent. were treated in hospital.

#### MEASLES

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1919	2,605	6·05	48	0·11	0·10
1920	5,523	12·30	148	0·33	0·19
1921	240	0·52	5	0·01	0·06
1922	10,078	21·59	152	0·33	0·15
1923	5,224	11·12	50	0·11	0·14
1924	7,037	14·92	46	0·10	0·12
1925	5,301	11·21	39	0·08	0·14
1926	7,702	16·27	20	0·04	0·09
1927	8,664	18·14	117	0·24	0·09
1928	3,679	7·75	21	0·04	0·11
1929	10,742	22·45	102	0·21	0·08

#### AGES AT DEATH FROM MEASLES.

1929	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of Deaths	16	41	23	10	6	6	..	102

## WHOOPIING COUGH.

Year.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1919	66	0.15	0.07
1920	100	0.22	0.12
1921	72	0.15	0.12
1922	115	0.25	0.17
1923	32	0.07	0.11
1924	87	0.18	0.10
1925	47	0.10	0.16
1926	119	0.25	0.11
1927	44	0.09	0.07
1928	36	0.08	0.08
1929	107	0.22	0.15

## AGES AT DEATH FROM WHOOPING COUGH.

1929	0-1	1-2	2-3	3-4	4-5	5-10	10-15	Total.
No. of deaths	34	39	23	5	4	1	1	107

**Whooping Cough.**—An unfortunate increase in the mortality from whooping cough occurred in 1929. There were 107 deaths (death-rate 0.22) as compared with 36 deaths (death-rate 0.08) for the previous year. The disease is not notifiable and consequently the incidence during the year cannot be assessed, but presumably it was high.

**Erysipelas.**—During 1929, 349 cases were notified as against 361 in 1928 and there were 19 deaths, the same number as for 1928. Of the 349 cases, 133, or 38.1 per cent., were treated in the City Hospital.

**Encephalitis Lethargica.**—There were seven cases notified during the year, giving a case-rate of 0·01. Deaths certified as due to this disease numbered eight, equivalent to a death-rate of 0·02.

**Acute Anterior Poliomyelitis.**—During the year there were but three cases notified ; in no case was there any evidence indicating the source of infection. Three deaths were certified as due to the disease.

**Cerebro Spinal Meningitis.**—There were nine cases notified during the year and 14 deaths were certified as due to this disease.

**Malaria and Dysentery.**—One case of malaria was notified and two deaths from it were certified. There were no notifications of dysentery.

**Puerperal Fever and Puerperal Pyrexia.**—The figures for the year are given below, viz. :—

Disease.	Cases notified.		Case-rate per 1,000. population		Deaths.		Death-rate per 1,000. population	
	1928	1929	1928	1929	1928	1929	1928	1929
Puerperal Fever ..	47	31	0·10	0·06	14	10	0·03	0·02
Puerperal Pyrexia ..	119	66	0·25	0·14	..	..	..	..

Of the 31 cases of puerperal fever six (19·4 per cent.) occurred in institutions, 17 (54·8 per cent.) in doctors' practices, and eight (25·8 per cent.) in the practice of midwives. Nineteen cases or 61·3 per cent. were treated in the City Hospital.

The cases of puerperal pyrexia were distributed as follows :— 26 (39·4 per cent.) in institutions, 21 (31·8 per cent.) in doctors' practices, and 19 (28·8 per cent.) in midwives' practices. As compared with 1928 there was a decrease of 16 cases of puerperal fever and a decrease of 53 cases of puerperal pyrexia.

This subject is further dealt with in the Section on Maternity and Child Welfare on page 142.

## PUERPERAL FEVER.

Year.	Cases.	Case-rate per 1,000 population.	Deaths.	Death-rate per 1,000 births.	Death-rate per 1,000 population.
1900	21	0.05	13	0.99	0.03
1901	26	0.06	16	1.24	0.04
1902	21	0.05	12	0.91	0.03
1903	26	0.06	10	0.77	0.02
1904	26	0.06	11	0.88	0.03
1905	28	0.06	9	0.73	0.02
1906	30	0.07	14	1.16	0.03
1907	30	0.07	15	1.28	0.03
1908	24	0.05	13	1.08	0.03
1909	32	0.07	19	1.73	0.04
1910	29	0.07	14	1.29	0.03
1911	23	0.05	13	1.23	0.03
1912	31	0.07	9	0.87	0.02
1913	32	0.07	13	1.20	0.03
1914	46	0.10	27	2.53	0.06
1915	23	0.05	12	1.21	0.03
1916	28	0.06	12	1.27	0.03
1917	22	0.05	5	0.66	0.01
1918	17	0.04	6	0.81	0.01
1919	26	0.06	6	0.79	0.01
1920	56	0.12	29	2.58	0.06
1921	31	0.07	8	0.79	0.02
1922	35	0.07	14	1.51	0.03
1923	51	0.11	10	1.15	0.02
1924	53	0.11	9	1.05	0.02
1925	52	0.11	24	2.93	0.05
1926	46	0.10	14	1.74	0.03
1927	37	0.08	14	1.80	0.03
1928	47	0.10	14	1.83	0.03
1929	31	0.06	10	1.35	0.02



**Ophthalmia Neonatorum.**—During 1929, 38 cases were notified as compared with 66 in 1928. In recent years there has been a welcome decline in this disease in Leeds. This is to a great extent due to the work of the ante-natal clinics as well as to the greater care exercised by doctors and midwives to see that the eyes of the new-born are protected from infection. Expectant mothers to-day are more alive to the grave effects which untreated venereal disease has on their offspring than was the case a decade ago, and are more willing to submit to treatment. Similarly midwives have a keener appreciation of the value of the prompt application of proper remedies so soon as disease is suspected in their patients. Of the 38 cases notified, 27 were treated at home, and 11 in hospital, viz., two in the Maternity Hospital, six in the Leeds General Infirmary, two in St. Mary's Infirmary and one in St. James' Hospital. Four cases (10·5 per cent.) occurred in institutions, 11 cases (28·9 per cent.) in doctors' practices and 23 (60·5 per cent.) in the practices of midwives.

#### DAY OF ONSET FROM BIRTH.

1929.	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th	10th-15th	15th-20th	20th-25th
No. of Cases	—	—	4	2	2	4	3	1	4	2	10	3	5

The results of treatment were as follows:—

Recovery apparently perfect	..	..	35
Died	..	..	1
Sight of both eyes affected	..	..	—
Still under treatment	..	..	—
Result not known	..	..	2

The agreement with the District Nursing Association for the treatment of cases of ophthalmia neonatorum and discharging eyes in their own homes was continued during the year and 33 cases were referred to the district nurses for this purpose.

## ENTERIC FEVER.

Year.	Cases notified.	Case-rate.	Deaths.	Death-rate. LEEDS.	Death-rate England and Wales.
1919	33	0.08	8	0.02	0.02
1920	29	0.06	4	0.01	0.01
1921	24	0.05	2	0.00	0.02
1922	14	0.03	7	0.01	0.01
1923	9	0.02	1	0.00	0.01
1924	25	0.05	6	0.01	0.01
1925	9	0.02	3	0.01	0.01
1926	9	0.02	1	0.00	0.01
1927	14	0.03	2	0.00	0.01
1928	6	0.01	1	0.00	0.01
1929	14	0.03	3	0.01	0.01

## CASES OF ENTERIC FEVER MONTH BY MONTH.

Jan.	Feb	March	April	May.	June.	July.	Aug.	Sept.	Oct	Nov.	Dec.
2	1	1	—	1	1	—	2	2	3	1	—

**Typhoid or Enteric Fever and Para-Typhoid Fever.**—During the year 10 cases of typhoid and 4 cases of para-typhoid fever were notified. Three deaths occurred all due to typhoid, equal to a death-rate of 0.01 per 1000 of the population. Of late years, as a result of progressive improvement in sanitation, typhoid fever

has become a rare disease. The occurrence of 14 cases in a population of close on half a million is not excessive although it is an increase of 8 on the previous year.

The increased incidence in 1929 is not unconnected with the unusually dry summer of 1929 and the consequent shortage of water. Although the Leeds water supply held out, without its becoming necessary to impose restrictions further than in the amount of water used for swilling yards, etc., the impounding reservoirs were low over a considerable period and it looked as though rationing would have to be resorted to. An appeal was made to the public to conserve water as much as possible and to avoid waste. This had the effect of inducing certain well intentioned people to make use of casual supplies in holes and wells near their dwellings. One such instance came to light of a family using well water which when tested was found to be contaminated and unusable for drinking or culinary purposes. Fortunately the danger was perceived before harm ensued, but there may have been cases not brought to the notice of the Department where illness was attributable to the drinking of water from similar sources. As far as the cases of typhoid and para-typhoid fever mentioned above are concerned the source of infection was never definitely ascertained.

**Diarrhœa and Enteritis (Summer Diarrhœa).—**There occurred during 1929, 86 deaths from diarrhœa and enteritis in children under two years of age which corresponds to a death-rate of 11·6 per thousand births. In 1928 the figure was 105 and the death-rate 13·7. In both years the dry, hot weather of the summer months invited the disease and it is a further proof of what can be achieved by the education of the people in domestic and public hygiene that the death-rate was so low. It will bear repetition, indeed it cannot be too strongly emphasised, that the remedy against summer diarrhœa is largely in the hands of parents themselves. The way of prevention is that of greater attention to cleanliness of habits, home and food, and to the suppression of flies, not forgetting the supreme importance of enlightened and conscientious mothercraft. It is interesting to note that in 1921, a year like last with a dry hot Summer, the death-rate from this disease was 18·1 or 56·0 per cent. more than in 1929. This demonstrates better than words can the triumph of hygienic principles applied to daily life over morbid causes.

DIARRHŒA AND ENTERITIS DEATHS UNDER TWO YEARS  
WITH RATES PER 1,000 BIRTHS.

Year.	Deaths.	Rate per 1,000 Births.	
		Leeds.	England and Wales.
1919	140	18·5	10·2
1920	140	12·5	8·9
1921	184	18·1	16·1
1922	92	9·9	6·6
1923	118	13·6	8·1
1924	103	12·0	7·6
1925	149	18·2	8·8
1926	147	18·2	9·2
1927	88	11·3	6·7
1928	105	13·7	7·2
1929	85	11·6	8·1

**Influenza.**—The number of deaths during the year under review from influenza was no less than 568, as compared with an average of 187 for the previous five years and 100 for 1928. During the first quarter of 1929 influenza swept the country and Leeds suffered severely. In the months of February and March alone some 500 deaths from the disease were certified. The Leeds epidemic commenced during the first week of February and reached its peak during the fourth, then declined during March and ended with that month. The number of cases in the outbreak is not known for, of course, influenza is not a notifiable disease. Judging however from the Press reports and the experience of representative medical men in general practice, there is reason to believe that the incidence was unusually heavy. The notifications of acute primary pneumonia and influenzal pneumonia which are to some extent a reflex of the prevalence bear this out. The subjoined table gives the notifications week by week during the period of the epidemic.

Week ended	No. of Notifications of acute primary pneumonia.	No. of Notifications of acute influenzal pneumonia.
February 2nd .. ..	28	1
February 9th .. ..	51	16
February 16th .. ..	66	37
February 23rd .. ..	126	89
March 2nd .. ..	140	107
March 9th .. ..	54	47
March 16th .. ..	39	16

Speaking generally the type was not severe. In old folks, however, the disease, aided to a considerable degree by the exceptionally rigorous climatic conditions which obtained throughout February, exacted no small toll of lives.

Energetic measures were taken by the Department to cope with the epidemic. They can be summarised as follows:— (1) provision of home nursing and home helps, (2) special hospital provision, (3) propaganda. Probably the last mentioned was attended with most success. After all, it is to the people themselves one must look to combat an epidemic of the large scale variety such as this was successfully. Any measures a Health Department takes can only touch the merest fringe of the problem. The people must be taught how to avoid infection and how to fortify themselves against attack. Infected persons must be informed that they have a duty to the community as well as to themselves and their families and must be warned to avoid handing on the infection to others. Everything possible was done to broadcast this information in appropriate quarters and there is every reason to believe that the public responded usefully.

Compared with the epidemic of 1918-1919, which was one of the worst in the history of the city the epidemic of 1929 ran a shorter course and was attended with a lower mortality. The type of disease was also less virulent and its victims were mostly persons past middle life.

A detailed description of the epidemic was given in a special report which was presented to the Health Committee in March.

## INFLUENZA.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1919	623	1.45	1.22
1920	170	0.38	0.28
1921	164	0.35	0.24
1922	169	0.36	0.56
1923	122	0.26	0.22
1924	404	0.86	0.49
1925	159	0.34	0.33
1926	100	0.21	0.23
1927	173	0.36	0.57
1928	100	0.21	0.20
1929	568	1.19	0.74

## AGES AT DEATH FROM INFLUENZA.

1929	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
No. of Deaths	7	8	16	7	20	72	167	271	568

**Bronchitis.**—There were 559 deaths from bronchitis during the year as compared with 343 for the previous year and an average of 458 for the previous five years. The death-rate was 1·17 as against 0·72 for 1928 and an average of 0·97 for the previous quinquennium. Of the 559 deaths, 380 or 68·0 per cent. occurred in the first quarter of the year and may therefore be accepted as being associated with the general increase in the incidence of respiratory infection which took place in that quarter. Most of the deaths, to be accurate 364, or 65·1 per cent., occurred in the age group 65 and upwards, or in other words the disease affected old people rather than children or those in middle life.

## BRONCHITIS.

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1919	741	1·72	1·24
1920	625	1·39	1·01
1921	556	1·19	0·89
1922	596	1·28	1·07
1923	518	1·10	0·85
1924	643	1·36	0·97
1925	513	1·08	0·91
1926	439	0·93	0·77
1927	351	0·73	0·84
1928	343	0·72	0·59
1929	559	1·17	

## AGES AT DEATH FROM BRONCHITIS.

1929	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total
No. of Deaths	26	5	5	1	4	22	132	364	559



**Pneumonia.**—Only pneumonia of the acute primary and acute influenzal varieties are notifiable. Owing to the confusion liable to arise between primary and secondary pneumonia I suspect that notification was incomplete. The reason why these conditions were added to the list of notifiable diseases was in order to give local health authorities an opportunity of offering to those stricken with the disease and living under unsatisfactory surroundings such assistance in the way of home nursing as might be required in order to facilitate recovery, but the fact that so many notifications arrive too late to be of any real service and so many cases are never notified at all rather indicates that the real *raison d'être* of notification has not been appreciated by the average general practitioner.

#### PNEUMONIA (ALL FORMS).

Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1919	560	1.30	1.06
1920	622	1.39	0.99
1921	562	1.21	0.92
1922	502	1.08	1.07
1923	440	0.94	0.87
1924	619	1.31	1.00
1925	503	1.06	0.95
1926	484	1.02	0.83
1927	477	1.00	0.95
1928	485	1.02	0.79
1929	825	1.72	

#### AGES AT DEATH FROM PNEUMONIA.

1929	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total
No. of Deaths	150	113	59	24	37	96	182	164	825

The number of notifications received during the year was 1,351 primary and 437 acute influenzal, the majority of which are referable to the first quarter of the year or the period of the influenza epidemic. The attack rate for the two varieties of pneumonia based on the notifications received was 2.82 and 0.91 respectively, as compared with 2.09 and 0.33 for the previous year and 1.96 and 0.53, the average of the previous five years.

During the year there were 825 deaths as compared with 485 for the previous year and an average of 514 for the previous five years. The death-rate for the year was 1.72 as compared with 1.02 for the previous year and an average of 1.08 for the previous quinquennium. The death-rate for 1929 (1.72) is the highest rate recorded in Leeds since 1918 when the rate was 1.80. Of the 825 deaths from pneumonia, 479 or 58.1 per cent. occurred in the first quarter of the year.

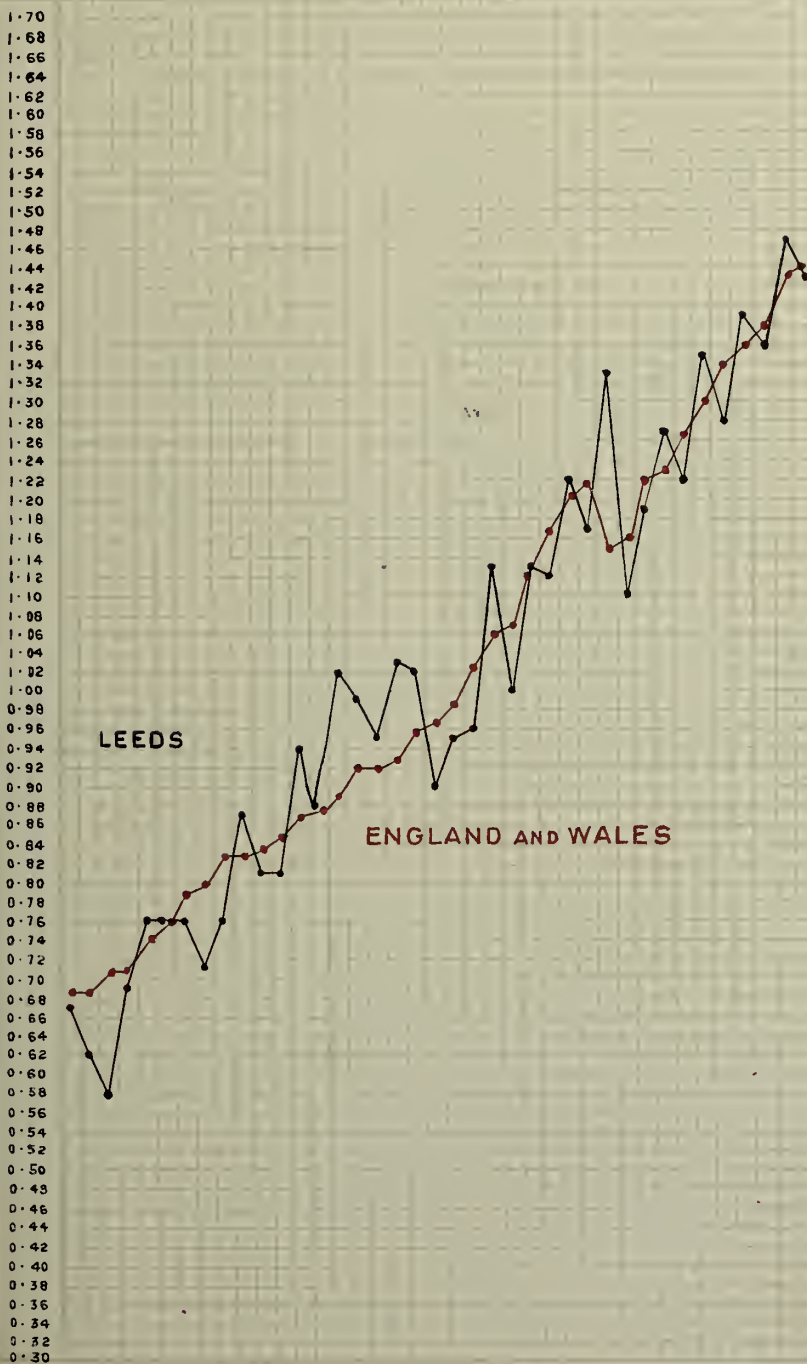
The distribution of the deaths in age groups is given in the table on page 27, and it will be noted that no fewer than 322, or 39.0 per cent., were amongst children under five years of age, whilst 346, or 41.9 per cent., were over 45 years. As compared with the previous year these figures represent an increase of 157 in the group under five years of age and 128 in the age groups over 45. It should be observed that the figures given above relate to secondary as well as primary and acute influenzal pneumonia, because of the difficulty of determining from the death returns to which of the three groups the deaths belong.

**Cancer.**—During the year there were 684 deaths from cancer equivalent to a death-rate of 1.43 as compared with 698 deaths in 1928 and a death-rate of 1.47. Although there was a slight decrease in the death-rate for the year under review as compared with the previous year, the rate is considerably higher than the average of the previous five years (1.37). Of the total deaths 304, or 44.4 per cent. were males and 380, or 55.6 per cent. females. The corresponding percentages for the previous year were males 47.3 and females 52.7.

*Ages at Death.*—Of the total (304) male deaths from cancer, 17, or 5.6 per cent. occurred in the age group 25-45, 146, or 48.0 per cent. in the age group 45-65, and 139, or 45.7 per cent., in the age group 65+, whilst the female deaths were distributed as

# CANCER DEATH RATE. — 1891 - 1929.

RATES  
PER  
1,000  
POP<sup>n</sup>





follows:—55, or 14·5 per cent. in the age group 25-45; 166, or 43·7 per cent. in the age group 45-65, and 156, or 41·1 per cent. in the age group 65+. The difference between the two sexes is most marked in the age group 25-45 where the female deaths exceed the male by as much as 223·5 per cent.

An analysis of the causes of death at this age period discloses the fact that the principal cause of death amongst women was cancer of the genital organs, whereas amongst males the principal cause was cancer of the alimentary tract.

*Anatomical sites of the Disease.*—The accompanying chart shows the male and female deaths from cancer classified according to the organs or parts of the body affected. As pointed out in previous reports cancer of the mouth and tongue is more common amongst men than women, and the same discrepancy is noted in the figures for 1929, though the total deaths from the disease in this site declined. Of the male deaths the sites most commonly affected were stomach, liver and pancreas, whilst amongst females by far the commonest was the genital organs.

Cancer of the genital organs and breast accounted for no fewer than 163 or 42·9 per cent. of the total female deaths from cancer as compared with 154 or 41·8 per cent. in the previous year. Considering the amount of publicity given to the subject and the emphasis constantly laid upon the fact—clearly demonstrated by many authorities—that treated in the early stages cancer of these sites is curable, to have to record an increase instead of a decrease is a matter of no little disappointment. It is quite obvious that women are failing to appreciate the significance of early signs and symptoms and the importance of seeking medical advice before the disease has got fairly established. Further education is evidently necessary and even at the risk of inducing a phobia efforts must be made to arouse in the female population a greater interest in their own health and a desire to co-operate more closely with the medical profession in the eradication of the malady. So long as women remain indifferent to the warning signals which they receive in the shape of slight swellings in the breasts or discharge from the womb during the early stages of the disease so long will death continue to claim lives which the intervention of medical science at the proper time could have saved.

## CANCER.

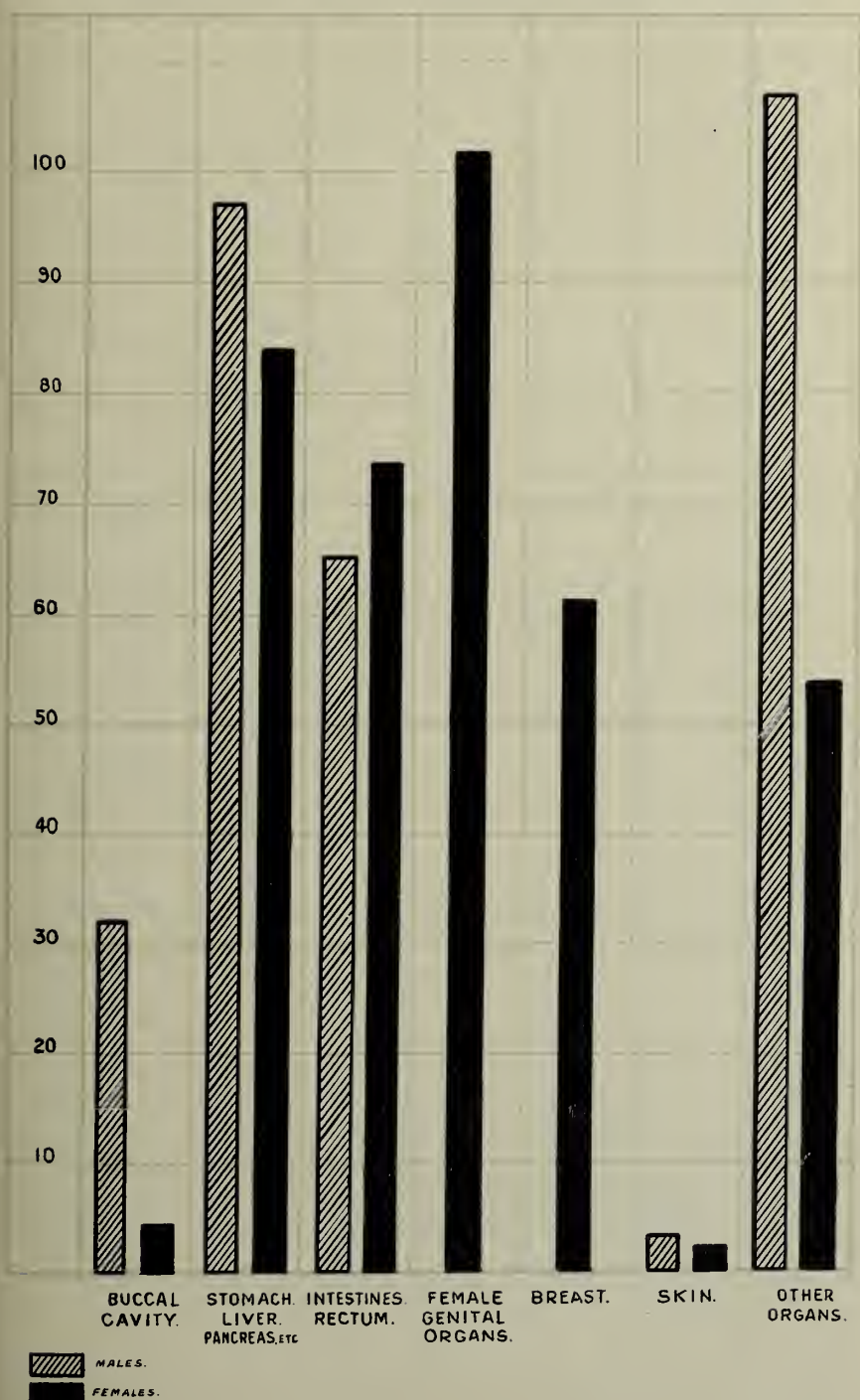
Year.	Deaths.	Death-Rate. LEEDS.	Death-Rate England and Wales.
1919	575	1·33	1·15
1920	492	1·10	1·16
1921	554	1·19	1·22
1922	595	1·27	1·23
1923	574	1·22	1·27
1924	639	1·35	1·30
1925	606	1·28	1·34
1926	657	1·39	1·36
1927	649	1·36	1·38
1928	698	1·47	1·43
1929	684	1·43	1·44

## AGES AT DEATH FROM CANCER.

1929.	0-1	1-2	2-5	5-15	15-25	25-45	45-65	65+	Total.
Males	..	..	..	..	2	17	146	139	304
Females	1	..	..	..	2	55	166	156	380
Total	1	..	..	..	4	72	312	295	684



CHART SHOWING NUMBER OF DEATHS FROM  
CANCER OF DIFFERENT PARTS OF THE BODY 1929.







Ward.	Buccal cavity.		Pharynx, oesophagus, stomach, liver and annexa.		Peritoneum, intestines and rectum.		Female genital organs.		Breast.		Skin.		Other or unspecified organs.		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
Central	..	..	7	1	1	4	..	..	..	..	..	..	3	1	11	6
North ..	..	..	11	10	6	15	..	1	9	..	1	..	14	5	34	46
North-East	..	..	3	3	10	7	..	6	6	..	..	..	8	4	26	25
New ..	..	..	3	3	4	3	..	3	1	..	..	..	3	4	10	14
East ..	..	..	4	4	3	7	..	8	4	..	..	..	7	4	16	27
South ..	..	..	6	2	1	3	..	2	2	..	1	..	3	..	14	9
East Hunslet	..	..	5	10	5	6	..	6	6	..	..	..	8	..	20	27
West Hunslet	..	..	6	4	5	7	..	4	1	..	..	..	6	..	19	18
Holbeck	..	..	8	5	2	3	..	3	5	..	..	..	4	4	15	18
Mill Hill	..	..	1	1	..	1	..	1	..	..	..	..	2	..	4	4
West ..	..	2	3	3	3	9	..	3	4	..	1	..	12	3	19	24
North-West	..	..	6	5	3	6	..	7	6	..	..	..	11	4	22	28
Brunswick	..	..	7	6	3	4	..	5	..	..	..	..	2	2	12	17
New Wortley..	..	..	2	2	2	4	..	6	2	..	..	..	4	1	8	14
Armley and Wortley	..	..	8	3	4	8	..	5	4	..	..	..	4	10	19	31
Bramley	..	3	10	12	4	5	..	3	5	..	..	..	4	3	21	29
Headingley	..	6	7	10	9	8	..	9	6	..	1	..	12	9	34	43
City ..	32	4	97	84	65	73	102	61	3	2	107	54	304	380		

*The Yorkshire Council of the British Empire Cancer Campaign.*—

The Council has continued to prosecute its investigations into the causes of cancer and in this direction has accomplished much useful work, details of which may be obtained in the annual report recently issued. But the publicity side has not been inactive and by means of lectures, demonstrations in connection with Health Exhibitions and press notices, it has sought to carry knowledge and enlightenment of the subject to the public of all classes.

A new feature in its activities was the organisation of a series of four lectures on various aspects of the subject to medical men. The lecturers were all men of the first rank and experts on the subject which ensured a good attendance of practitioners from all over Yorkshire at the meetings. The importance of a post-graduate course of this kind cannot be over-estimated because knowledge of the subject has advanced so rapidly in recent years that many—even of the younger practitioners—already find themselves somewhat out-of-date. It is hoped that it will be found possible to repeat the course or even extend it on some future occasion.

**Fur Dermatitis.**—A typical case of the above was seen during the year. The patient, a woman aged 35 years, purchased a cheap fur collar and a pair of fur cuffs at a large store in the city. One week after commencing to wear these, she suffered from a definite dermatitis in the form of a blotchy erythema. The distribution of the rash was confined to the neck, chin and both wrists. The rash quickly cleared on the patient ceasing to wear the furs. The origin of the fur was Belgium and it was also dyed there. A specimen of the fur was submitted to the City Analyst (Mr. C. H. Manley) who reported thereon as follows :—

“The furs consist of partly dyed rabbit hair and contain a chemical irritant, viz., meta-phenylene diamine or one of its oxidation products. In my opinion this fur base has been incompletely oxidised during the second stage of the dyeing process, thus causing dermatitis.”

Inquiry was made at the store where the offending furs had been purchased. Although many furs of the same consignment had been sold there had been no other complaint. It can only be concluded that the woman had some idiosyncrasy or that the furs had been subjected to an unusual amount of moisture in the form of perspiration or rain.

CANCER DEATH-RATES, ELEVEN LARGE TOWNS, ALSO ENGLAND  
AND WALES.

	Year 1918.	Year 1919.	Year 1920.	Year 1921.	Year 1922.	Year 1923.	Year 1924.	Year 1925.	Year 1926.	Year 1927.	Year 1928.
London ..	1·33	1·25	1·25	1·33	1·33	1·39	1·42	1·44	1·46	1·49	1·52
Birmingham..	1·03	1·09	1·11	1·10	1·16	1·18	1·31	1·29	1·31	1·39	1·37
Liverpool ..	1·10	1·03	1·07	1·10	1·06	1·13	1·13	1·21	1·18	1·16	1·33
Manchester ..	1·24	1·17	1·28	1·28	1·29	1·41	1·40	1·40	1·49	1·45	1·49
Sheffield ..	1·06	0·97	1·08	1·17	1·18	1·19	1·26	1·33	1·19	1·39	1·37
Leeds ..	<b>1·19</b>	<b>1·35</b>	<b>1·09</b>	<b>1·19</b>	<b>1·29</b>	<b>1·24</b>	<b>1·37</b>	<b>1·28</b>	<b>1·41</b>	<b>1·37</b>	<b>1·46</b>
Bristol ..	1·30	1·18	1·15	1·26	1·21	1·32	1·28	1·32	1·26	1·43	1·45
Hull ..	1·17	1·15	0·97	1·21	1·21	1·04	1·29	1·20	1·46	1·45	1·47
Bradford ..	1·45	1·38	1·28	1·39	1·49	1·33	1·56	1·42	1·63	1·59	1·55
Newcastle ..	0·87	1·13	0·94	1·10	1·08	1·16	1·24	1·32	1·19	1·20	1·54
Nottingham ..	1·52	1·23	1·36	1·43	1·23	1·46	1·40	1·25	1·38	1·49	1·44
England and Wales ..	1·22	1·15	1·16	1·22	1·23	1·27	1·30	1·34	1·36	1·38	1·42

The rates are calculated from figures given in the Registrar General's Annual Reports.

**LEEDS CITY HOSPITAL****(Seacroft).****REPORT FOR THE PERIOD,****JANUARY 1st TO DECEMBER 31st, 1929.**

BY

J. S. ANDERSON, M.A., M.D., Ch.B., D.P.H., *Medical Superintendent.*

In previous years, the annual report has covered a period ending 31st March. In the present report a new departure has been made in that the period covered ends on 31st December. The alteration has been made in order to conform to the general practice.

**Admissions.**—Patients admitted during the year numbered 4,195, this figure being exclusive of nine persons admitted to the Quarantine Cottages for observation for smallpox. Last year's record of 4,156 patients has therefore been short lived. This state of affairs is almost entirely attributable to the epidemic of scarlet fever which began towards the end of 1928 and which continued with only slightly abated vigour during the whole of 1929. Another factor was the distinct tendency of diphtheria to become more prevalent in the city towards the end of the year.

Direct admissions from outside the City's boundaries numbered 24, consisting largely of patients suffering from puerperal conditions. During the annual period, 138 patients were admitted from the Leeds General Infirmary, and 119 from other medical institutions in Leeds.

The daily average number of patients in Seacroft Hospital was 388·4 compared with 396·2 during the previous year. Although the number fell slightly, the rate of admissions to hospital showed less tendency to variation. The greatest daily number of patients was 579 and the lowest 291.

The average length of stay in hospital for 4,253 patients whose treatment was completed was 35·5 days, the lowest figure recorded in the history of the hospital. Patient days in respect of these amounted to 150,798.

**Smallpox Hospital.**—Patients treated during the year numbered 25 as against 46 in the previous annual period. The number of patient days for 25 patients whose treatment was completed was

509, giving an average stay in hospital of 20·4 days. The greatest number of patients in one day was eight and the lowest nil.

**Quarantine Cottages.**—Persons admitted for observation during the year numbered nine as against 39 in the previous annual period. Of these one developed smallpox, and was transferred to the smallpox hospital for treatment. The number of patient days for nine persons discharged or transferred during the year was 102, giving an average of 11·3 days. The greatest number of persons in isolation in one day was seven, and the lowest nil.

**Death-rates.**—Mortality rates are calculated on the total number of discharges and deaths. The rate for all cases was 2·4 per cent. ; in the previous year it was 2·5 per cent. The rate for 1929 is the lowest ever recorded in the hospitals, and is attributable to the large number of scarlet fever admissions and its low death-rate.

**Meteorological Records.**—These continue to be kept in Seacroft Hospital. The year 1929 was noteworthy in two respects. February was an exceptionally rigorous month, 20 degrees of frost having been recorded on two occasions. The other feature was the exceptionally low rainfall, a total for the year of 24·80 inches having been recorded. A rainfall under 30 inches has not been recorded since 1921 when it was 23·56 inches.

**Scarlet Fever.**—The epidemic which commenced in June, 1928, continued throughout the whole of 1929. As mentioned in the last annual report, an arrangement with the Leeds Board of Guardians placed at the disposal of the Health Department on November 1st, 1928, a ward in Holbeck Infirmary with 80 beds. This ward remained in occupation during the first two months of 1929 and was handed back to the Guardians on March 4th, 1929. During the spring and summer months the number of admissions remained much above the average, while towards the end of the year, the accommodation at Seacroft Hospital was again taxed to the utmost although it was not necessary to resort to a waiting list.

During the year 3,076 patients were admitted as compared with 2,928 recorded in the previous report. Patient days in respect of individuals who had completed treatment, numbered 119,842, equivalent to an average stay in hospital of 37·4 days. In the last few years, the average stay has fallen considerably, the period of isolation having decreased by 2½ weeks since 1919. This decrease is in keeping with general modern practice and has

been assisted by the more general use of scarlatinal antitoxin. Another factor has been the tendency to place a less exaggerated importance on the infectivity of desquamating particles of skin. Recent work shows that there is ground for believing that desquamating skin does harbour infection, but recent experience proves that such skin is a negligible factor in the production of return cases and that attention should be directed rather to the elimination of aural and nasal discharges and to the correction of septic conditions of the nose and throat. The following table shows how the period of isolation has declined during the past 10 years.

Year.			Days.
1919-1920	..	..	55·2
1920-1921	..	..	51·7
1921-1922	..	..	52·7
1922-1923	..	..	47·2
1923-1924	..	..	49·7
1924-1925	..	..	50·2
1925-1926	..	..	49·0
1926-1927	..	..	44·2
1927-1928	..	..	44·2
1928-1929	..	..	39·0
1929	..	..	37·4

The Annual Report covered a period up to 31st March, until 1928-1929.

*Return Cases.*—These numbered 78 or 2·43 per cent. of patients discharged. The details are as follows:—

Admitted within first week following discharge of primary case 32

„	„	second	„	„	„	29
„	„	third	„	„	„	15
„	„	fourth	„	„	„	2

Total return cases

78



Return cases are inevitable in fever hospital practice, but it is sometimes suggested that the shortening of the period of isolation has an unfavourable effect on the return case-rate. Figures are given below to show that this is not so. If any inference is to be drawn, it must be to the effect that the return case-rate falls with the period of isolation. Experience seems to support this assertion for it is well known that the longer a child remains in the atmosphere of a scarlet fever ward, the greater is the likelihood of that child developing a septic condition of the nose or throat, and it has already been pointed out that such a condition is a most likely factor in the production of return cases.

Year.		Return Case-rate.
1919-1920	..	3·2
1920-1921	..	Figure not available
1921-1922	..	4·2
1922-1923	..	3·2
1923-1924	..	4·6
1924-1925	..	5·4
1925-1926	..	3·6
1926-1927	..	2·7
1927-1928	..	Figure not available
1928-1929	..	2·5
1929	.. ..	2·43

*Type of the Disease.*—The disease remains of a mild type. Toxic cases were rarely encountered, and septic cases were infrequent. It appears likely that the development of sepsis was aborted occasionally by the timely use of antitoxin. Surgical scarlet fever occurred frequently, the majority of the patients from the Leeds General Infirmary showing this type. Some cases of puerperal

scarlet fever were also encountered, and one is tempted to remark on the excellence of the prognosis when scarlet fever complicates the puerperium.

*Death-rate.*—The mortality rate was 0·7 per cent. as compared with 0·6 per cent. for the previous year and 0·93 per cent. for the year 1927-1928. The deaths numbered 23, mostly composed of patients in whom sepsis was well developed before admission.

*Complications.*—The percentage incidence of the principal complications remains comparatively low, and shows little change from that of recent years. The details are given in the following table :—

SCARLET FEVER.  
PERCENTAGE INCIDENCE OF PRINCIPAL COMPLICATIONS.

Principal complications.	Total number of cases.	Percentage incidence.
Adenitis (suppurative in 27 cases) ..	271	8·4
Albuminuria and nephritis .. ..	71	2·2
Otitis media .. .. .	220	6·8
Rheumatism .. .. .	89	2·7
Rhinitis .. .. .	166	5·1

One patient developed purpura hæmorrhagica following a simple attack of scarlet fever. As this is a rare occurrence, a record was published in *The Lancet*, by Dr. L. Trewby, an assistant medical officer. As a matter of interest, the article may be reproduced here.

The patient, a girl, aged 18 years, was admitted to the City Hospital Leeds, on October 4th, 1929, suffering from scarlet fever. She looked healthy. There was no history of rheumatism, and nothing abnormal, in the family history; she had had measles and whooping-cough in infancy.

She was admitted on the fourth day of the disease, and appeared to have a typical attack of scarlatina benigna. The symptoms included a temperature of 102·4°F. on admission, a moderately well-developed punctate erythema, moderately injected throat with rather large tonsils,

some follicular deposit being present, no adenitis, and a faint trace of albuminuria on the day of admission only. The heart and lungs appeared normal. On the sixth day she complained of slight rheumatic pains about the shoulders. This passed off within a few days. Desquamation occurred on the twelfth day of the disease. As her progress appeared to be satisfactory, she was allowed up on the 22nd day, but had to return to bed, as she vomited twice and developed a temperature of 99·6. On the 23rd day she complained of rheumatic pains which attacked successively her hands, right elbow, left foot, back, left elbow, and left knee. This continued during the 24th day. The joints appeared to be swollen. On the 25th day the pains were easier, but the swelling persisted. Patches of purplish staining appeared on the trunk and extremities. There was a complete left and a partial right subconjunctival ecchymosis. The temperature reached 101·4 at this stage. It was suspected that the joint condition was due to effusion of blood. On the 26th day fresh purpuric areas appeared. One involved the left anterior quadrant of the tongue and formed a rather prominent swelling. In the course of the forenoon bleeding developed from the mucous membranes of the mouth. By mid-day she became very restless, flinging herself about the bed. Semi-consciousness followed and death ensued at 8 p.m. An autopsy was not permitted.

C. B. Ker states that he had only seen a few cases of purpura hæmorrhagica, and these in septic cases, and usually supervening in the third week. J. D. Rolleston and others have described cases of a rapidly fatal type of the disease known as purpura fulminans, in which the ecchymoses are large and inflammatory, and in which no bleeding from the mucous membranes occurs. J. J. Phelan has reported a case of purpura fulminans occurring in scarlatina benigna, and states that in the literature he can find no definite evidence of a similar case.

The case reported differs from Phelan's case in two particulars, the less rapid course and the terminal development of hæmorrhages from the mucous membranes.

*Scarlatinal Antitoxin.*—This was extensively used both in the treatment of scarlet fever and for prophylactic purposes. Owing to the large number of scarlet fever patients and the average mildness of the disease, the use of antitoxin was restricted to the more acute cases. A total of 419 patients received antitoxin, this number including 16 of the 23 deaths attributed to scarlet fever. Of all patients whose treatment was completed 12·9 per cent. therefore received antitoxin. In the very urgent cases the intravenous route was employed when possible. Elsewhere it is recommended that this route should be employed in all cases, but in view of the admitted risks, small though they are, it has not been considered advisable to employ this method except when urgency demanded it.

Of 403 serum treated patients, 252 did not develop complications while in hospital. Below is a statement of the average period of isolation in hospital of serum and non-serum treated cases. It must be kept in mind that the latter were, with very few exceptions, representative of a very mild type of the disease.

Class of patient.	Average stay in hospital in days.
All patients .. .. .	37·4
All non-serum treated patients .. ..	37·0
All serum treated patients .. .. .	40·0
Serum treated patients with complications ..	55·6
„ „ „ without complications	34·6

*Cross Infection.*—During the greater part of the year, the scarlet fever wards were kept in full occupation, and the absence of reserve wards rendered the problem of dealing with cross infection difficult. The difficulty was increased by the unusual prevalence in the city during the spring months of both measles and chickenpox. The unavoidable admission to the children's wards of patients in the incubation stage of these diseases, was responsible for a considerable toll. Of patients who completed their treatment, 3·7 per cent. developed an additional infection, chickenpox being the infection in exactly half of these.

*Treatment of Ear Conditions.*—During the year 220 patients developed ear conditions and of these eight died. In 164 patients, one ear was affected and in 56, both ears. Of the total, 40 had received scarlatinal antitoxin. The average period of isolation in hospital of 212 discharged patients was 59·6 days and of these patients 43 left with an aural discharge. In 1928, the average stay in hospital for 150 patients was 59·4 days and of these 30 were discharged uncured. It is obvious therefore that the development of an ear condition adds at least three weeks on to the patient's stay in hospital and may leave him with a permanent disability. Realising this, the Health Committee decided to appoint a specialist in diseases of the ear, nose and throat to act in a consulting capacity

and to perform all necessary operations. Accordingly on 1st September, the services of Mr. W. Maxwell Munby, F.R.C.S., became available.

The number of patients suffering from ear conditions following scarlet fever was sufficiently large to justify the setting aside of a small ward for their treatment. In the middle of October, an ear ward was opened with a sufficiently large staff to enable a concentrated attack to be made on the complication. Additional assistance was given in the provision of a small theatre in the ward which might be available for operations and for routine treatment of ears. By the provision of special blinds, the theatre may be utilised for dark room examinations, such as trans-illumination of the antra.

Sufficient time has not elapsed for the benefit of this appointment to be fully appreciated, but a study of the following figures reveals a promising outlook.

Patients have been grouped according to the time of the occurrence of the ear complication, the first group extending to 31st August, and the second from 1st September, the latter group

	January to August.	September to December.	Year.
Number of patients .. ..	171	41	212
Average stay in hospital ..	61·9	50·0	59·6
Operations :—			
Mastoid—			
(a) Radical operation ..	10 (1 bilateral) (1 before admission)	2	12
(b) Wilde's Incision ..	2	..	2
Removal of Tonsils and Adenoids—			
(a) Otorrhoea cured ..	3	2	5
(b) Otorrhoea uncured ..	2	..	2
Otorrhoea on discharge ..	38	5	43

having received expert supervision from the onset of the complication. It should be noted that the figures refer to discharged patients only. Operations performed on patients still in hospital are therefore not included.

It will be seen that patients with ear complications developing during the last four months of the year spent almost 12 days less in hospital on the average compared with those in the first group, and that the proportion of patients discharged uncured was almost half. Of the five patients discharged with otorrhœa persisting, three suffered from the condition before developing scarlet fever. In one case, the patient was discharged at the parents' request and against advice, while in the remaining case operation offered good prospects of cure, but permission for this was refused by the parents.

*Scarlatinal Toxin.*—This is employed extensively in hospital practice in order to detect susceptibility to scarlet fever—and also as an aid to the diagnosis of scarlet fever, through the agency of the Dick test, which is referred to elsewhere in this report. A standard strain of toxin is used throughout the country for this test but the search for other reliable and more comprehensive strains is essential. Work with regard to the comparative value of other strains of toxin has been proceeding in the hospital with material obtained through the courtesy of Dr. R. A. O'Brien of the Wellcome Research Laboratories. This will be placed on record in a later report.

**Diphtheria.**—During the year 505 patients were admitted to hospital suffering from diphtheria. In the last annual report which recorded the admission of 572 patients, it was stated that the admission rate had progressively increased for five years, and that this might culminate in the near future in one of the periodic exacerbations of the disease. The apparent fall in 1929 is really fallacious and is explained by the change of the period covered by the report. Actually, during the last three months of the year, diphtheria admissions increased rapidly and considerably increased accommodation had to be provided in hospital for diphtheria. The number of patients discharged on the completion of treatment was 462, and patient days in respect of these amounted to 17,279, giving an average stay in hospital of 37·4 days.



*Death-rate.*—During the year, 19 deaths were attributed to diphtheria, giving a death-rate of 4 per cent., as compared with 3.1 per cent. during the previous year. The details of these deaths are as follows :—

#### DIPHTHERIA DEATHS.

No. of case.	Age.	Form of disease.	Day of disease on admission.	Important features.
1	1½	L.*	7	Pulmonary complications. Post-measles case.
2	1½	F. and L.	4	Tracheotomy : pulmonary complications.
3	2	F.	4	Multiple paralysis.
4	2½	F. and L.	5	Tracheotomy.
5	4½	L.	3	Tracheotomy.
6	4½	F. and L.	8	Haemorrhagic.
7	5	F. and L.	6	Tracheotomy before admission Extensive emphysema.
8	5½	F.	5	Paralysis.
9	6	F.	6	Pneumonia on admission.
10	6½	F.	2	Very severe.
11	6½	F.	4	Haemorrhagic.
12	7	F.	3	Haemorrhagic.
13	7	F.	3	Haemorrhagic. Multiple paralysis.
14	7	F.	4	Paralysis.
15	7	F. and L.	4	Very severe.
16	8	F.	4	Haemorrhagic.
17	9	F.	3	Paralysis.
18	11	F. and L.	7	Haemorrhagic : tracheotomy.
19	21	F.	11	Haemorrhagic.

\* L.—Laryngeal.

F—Faucial.



*Type of the Disease.*—There has been noted a distinct tendency during the last three months of the year for the disease to assume a more severe type. The increase of the death-rate from 3·1 to 4 per cent. and the increase in the average stay in hospital from 34·6 to 37·4 days are suggestive, perhaps indicating a pre-epidemic increase in virulence.

*Forms of the Disease.*—The patients were classified as follows :—

	Number of patients.	Percentage of all patients.	Deaths.
Faucial .. ..	407	84·6	11
Faucial and laryngeal ..	37	7·7	6
Laryngeal .. ..	20	4·1	2
Nasal .. ..	3	0·6	..
Bacteriological .. ..	14	2·9	..
TOTAL .. ..	481	..	19

*Antitoxin.*—A minimum dosage of 16,000 units was adopted except in the very mildest clinical cases. In the most severe cases from 100,000 units to 120,000 units were administered, recourse being made to the intravenous route when possible. This dosage is frequently exceeded in some quarters at the present day, but hospital practice in a large industrial city such as Leeds suggests that a considerable proportion of the fatal cases are doomed before admission to hospital and that antitoxin is administered as a routine practice in these cases rather than with any expectation of saving life.

*Complications.*—A list is given of the principal complications. Attention may be drawn to the high percentage of patients in whom paralysis of some type appeared. Towards the end of the year, frequent examples of severe types were encountered. The figures do not include instances of cardiac paralysis unaccompanied by any other paralytic manifestations.

	Number of patients.	Percentage of total patients.
All complications .. .. .	78	16.2
Paralysis :		
All types .. .. .	65	13.5
Eye .. .. .	46	9.6
Palate .. .. .	29	6.0
Pharynx .. .. .	8	1.7
Other types .. .. .	21	4.4

*Tracheotomy.*—This operation was performed on 20 patients suffering from diphtheria, with five deaths. In one of the fatal cases tracheotomy was performed before admission. In addition, tracheotomy was required in one patient suffering from measles ; recovery took place. It may be noted that the practice of intubation has been commenced in the hospital, but that no cases come within the period under review. Details of patients treated by tracheotomy are as follows :—

Type of disease.	Number of patients.	Deaths.	Mortality per cent.
Laryngeal .. .. .	5	1	20
Faucial and laryngeal ..	15	4	26.7
All types .. .. .	20	5	25

*Cross Infection.*—During the year, the unusual prevalence of scarlet fever in the city was responsible from time to time for the admissions of diphtheria patients while in the incubation stage of scarlet fever. As a result 13 cases of this infection were noted. By routine testing of all admissions with the Dick test coupled with the prompt administration of scarlatinal antitoxin when infection appeared, the spread of the disease was promptly arrested.

**Measles.**—This disease was more prevalent in the city during the early part of the year and this is reflected in the increased number of admissions. These amounted to 166 patients as compared with 102 during the previous year. Deaths numbered 12, the mortality rate per cent. being 7.1 as compared with 6.7 for the previous year. The average stay in hospital for discharged cases was 20.1 days. In one case where laryngeal symptoms were pronounced, tracheotomy was performed with complete recovery.

It is proposed to make more accommodation available for measles patients when the demands on accommodation for scarlet fever patients are less urgent. It is realised that measles is a very serious menace to infantile life when bad environment and inadequate nourishment are also present, and early treatment in hospital of suitable cases should meet with some return.

The use of the blood serum of convalescent patients was introduced during the year. This may be employed to prevent the development of measles or to modify the attack of the disease. In hospital practice, the latter procedure is impracticable, but the former may be employed to prevent subsequent cases of measles in a ward into which measles infection has been introduced. The efficiency of convalescent serum is well established as a means of prevention, but there is the ever-present difficulty of obtaining suitable donors as few patients are old enough to be suitable for that purpose. It is hoped in subsequent years to develop this line of work.

**Enteric Fever.**—Only seven patients were admitted during the year. Two deaths occurred, in each case within 24 hours of admission to hospital. The average stay in hospital of recovered patients was 62 days.

**Tuberculosis.**—It was not found possible to make any provision for patients suffering from tuberculosis and none were admitted during the year.

**Puerperal Fever.**—During the year 59 patients were treated in hospital and of these 11 died, giving a mortality rate of 18.6 per cent. The number of patients treated during the year is the highest recorded in the hospital for any year. An innovation has been made in the admission to hospital in certain cases of the babies with their mothers. During the year nine infants were admitted. Separation from the child is sometimes a factor in preventing the mother from accepting hospital treatment. In many cases the mother is

able to continue to nurse her child and experience shows that the granting of facilities for nursing the child in hospital, renders the mother more acquiescent to the prolonged stay in hospital which the disease so often demands and in some cases even tends to accelerate her recovery.

The patients were classified as follows :—

Type of disease.	Number.	Deaths.
1. Local uterine infection .. ..	14	1
2. Pelvic or general peritonitis ..	11	8
3. Pelvic cellulitis .. ..	8	..
4. General blood stream infections ..	4	2
5. Infections of urinary tract .. ..	1	..
6. Miscellaneous infections .. ..	21	..
Total .. ..	59	11

The miscellaneous group included 10 cases of infection following abortion. Of the 11 cases recorded in the second group only one actually recovered, as two were transferred to the Leeds General Infirmary where death subsequently occurred. Laparotomy with drainage was performed in seven cases in Seacroft Hospital and in the two cases previously referred to, after transfer to another hospital. In the remaining two cases, the patients were moribund on admission. Post-mortem examinations were made on eight patients in group two. Bacteriological investigations revealed the presence of hæmolytic streptococci in five cases and coliform organisms in one. The remaining two cases were not investigated.

Laparotomy was also performed on one patient in group three in order to drain an abscess. Operation was also necessitated in cellulitis complicating a case in group four.

*Antitoxin.*—Anti scarlatinal serum (B.W. and Co.) was employed in the treatment of 14 patients and anti-puerperal serum (P.D. and

Co.) in the treatment of 12 others. The numbers are small, and it is doubtful if any benefit was obtained from the use of either serum.

The services of Mr. Carlton Oldfield continue to be available in connection with puerperal work.

**Smallpox.**—The 24 patients admitted during the year all suffered from the mild type of the disease so prevalent throughout the country and known as alastrim or minor smallpox. Although in the majority, the eruption was scanty and there was little constitutional disturbance, the fact must not be lost sight of that persisting pigmentation is evident in a proportion of patients and that this may amount to considerable disfigurement especially in females. Vaccination was performed before admission too late to protect from smallpox in three patients, so that vaccinia and smallpox were concurrent, the intervals between vaccination and the appearance of the eruption being 6, 10 and 11 days. One patient developed smallpox while under observation in the isolation cottages following contact with infection. No deaths occurred.

A table is appended showing age groups and state of vaccination of those affected :—

Age Group.			Vaccinated.	Unvaccinated.	Total cases.
—10	..	..	..	3	3
11—20	..	..	..	5	5
21—30	..	..	1	1	2
31—40	..	..	1	1	2
41—50	..	..	1	1	2
51—60	..	..	6	..	6
61+	..	..	4	1	5
All ages	..	..	13	12	25

In 392 patients suffering from miscellaneous diseases, the following are the details :—

Disease.	Total number of cases.	Deaths.
Infectious Diseases :—		
Erysipelas .. .. .	146	16
Puerperal fever or pyrexia .. .. .	59	11
Chickenpox .. .. .	22	..
Rubella .. .. .	42	..
Parotitis .. .. .	1	..
Encephalitis lethargica .. .. .	1	..
Whooping cough .. .. .	19	1
Influenza .. .. .	3	..
Pulmonary Diseases (excluding acute primary pneumonia) .. .. .	3	1
Diseases of nose and throat .. .. .	28	..
Retro-pharyngeal abscess .. .. .	3	..
Skin Diseases :—		
Acute pemphigus .. .. .	1	..
Impetigo contagiosa .. .. .	1	..
Dermatitis .. .. .	4	..
Herpes (one case with cellulitis) .. .. .	3	1
Urticaria .. .. .	2	..
Scabies .. .. .	1	..
Erythema multiforme .. .. .	2	..
Erythema simplex .. .. .	1	..
Seborrhoea corporis .. .. .	1	..
Acne vulgaris .. .. .	1	..
Intestinal Diseases :—		
Enteritis .. .. .	6	..
Mucous colitis .. .. .	1	..
Ulcerative colitis .. .. .	1	..
Acute constipation .. .. .	1	..
Acute appendicitis .. .. .	1	..
Septic conditions :—		
Cellulitis .. .. .	3	1
Abscesses .. .. .	5	..
Boils and carbuncles .. .. .	2	..
Other Diseases and Conditions :—		
Tuberculous meningitis .. .. .	3	3
Meningo-encephalitis .. .. .	1	1
Septicaemia .. .. .	1	1
Acute synovitis .. .. .	1	..
Abortion .. .. .	1	..
Vesicular mole .. .. .	1	..
Marasmus .. .. .	1	..
Burns and scalds .. .. .	1	..
Dental disorders .. .. .	3	..
Food rash .. .. .	1	..
Rodent ulcer .. .. .	1	..
Acute rheumatism .. .. .	1	..
Hysteria .. .. .	1	..
Lacerations following street accident .. .. .	1	..
Admitted for observation .. .. .	1	..
Admitted with mother .. .. .	9	..
Total .. .. .	392	36



**Other Diseases.**—It will have been noted on page 77 that there was one case of acute pemphigus. There is some ground for believing that this was an example of acute malignant pemphigus and as this condition is rare, the opportunity is taken of placing the case on record. It is possible that some physician might suggest an alternative diagnosis of morbilli bullosi.

*Acute Malignant Pemphigus.*—A man, aged 40, who was employed as a bricklayer, was admitted to hospital on 11th November, 1929, certified as suffering from measles. On 30th August, preceding, he was discharged from hospital after an uneventful attack of scarlet fever which ran a mild course. He had suffered from measles and chickenpox in infancy.

The history of the present illness commenced on 7th November with headache, backache and cough. Three days later the eruption appeared.

On admission, there was a blotchy eruption with a general distribution. The smaller macules were firm to the touch and slightly raised. The presence of bullae was noted on the neck, where the largest was almost the size of a walnut, and to a less extent on the face, wrists and ankles. Over some of the macules, however, the superficial layer of the skin could be slightly raised. There was marked orbital oedema, the eyes being completely closed. The entire mucous membrane of the buccal cavity and lips was affected and appeared to have sloughed leaving a raw surface. Extreme pain was complained of in the palms of the hands and the soles of the feet where the epidermis was raised with serous fluid. The temperature on admission was 101 degrees and the pulse 128, and the prognosis appeared hopeless.

The blisters were cut away and Tannic Acid in a 2½ per cent. solution was sprayed except on the face where Calamine Lotion was employed. Incisions were made in the skin of the palms of the hands and soles of the feet to relieve the tension. The mouth was irrigated frequently with a weak solution of Potassium Permanganate. Hypnotics were administered.

For a few days there was little improvement. Within six days of admission, the lesions commenced to dry rapidly and the mouth became appreciably cleaner. The temperature then fell to normal. At no stage was albuminuria noted.



On 22nd November, massive exfoliation of the skin of the hands and feet occurred. On 29th November the toe nails fell off.

On 6th December, the patient was discharged from hospital apparently completely cured.

### **The Immunisation of the Nursing Staff against Infectious Disease.**

*Typhoid Fever.*—The inoculation of the nursing staff against typhoid fever is the established practice of all infectious diseases hospitals. In the past when typhoid fever was much more prevalent than it is now, nothing but routine inoculation of all members sufficed. In recent years, however, cases of typhoid fever have been few and far between, and it has been considered advisable to modify the practice and to inoculate only when cases of the disease are actually in hospital.

*Diphtheria.*—The experimental stage of diphtheria prevention has now been left behind. Diphtheria is one of the principal diseases treated in an infectious diseases hospital and ample opportunities of developing the disease consequently come the way of the nursing staff. The necessity for protecting the staff is therefore obvious.

In the past, members of the nursing staff were given an opportunity of being protected, but few took advantage of this, so that there was little appreciable change in the incidence of diphtheria. Early in 1929 it was decided to commence routine prophylaxis, and from 1st April, all individuals on joining the nursing staff were Schick tested to ascertain susceptibility and immunised if found to be susceptible. Schick tests were performed thus on 67 individuals and 37 or 55·2 per cent. were found to be susceptible. This is rather a high percentage, but it is explained by the fact that the majority joined the staff from country districts. Of the 37 susceptible individuals, 30 received immunising injections, the majority being inoculated with a toxoid-antitoxin mixture which does not give severe reactions. A number have received injections of diphtheria toxoid which is believed to have a quicker and greater immunising effect. In this country, little work has been done with diphtheria toxoid. Insufficient experience has been gained in the hospital with this material so far, but it is hoped to report on it in the near future.

The practice of diphtheria prevention has been confined to the nursing staff, as comparatively few cases of infectious disease develop amongst the domestic staff. During 1929, one nurse and one wardmaid developed the disease, both during the first three months of the year. No inoculated member of the nursing staff has so far developed diphtheria.

Statistics regarding the Schick test and immunisation are as follows :—

Result of Schick Test.		Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Total Immunised.	Developed Diphtheria.
+	25	37 (55·2%)	..	22	30	..
Ps +	4		..	3		..
±	2		..	2		..
Ps ±	6		..	3		..
-	24	..	30 (44·8%)	..	..	..
Ps -	6	..		..	..	..

Pseudo reactions = 16 (23·8%).  
+ = positive reaction.

± = weakly positive reaction.  
- = negative reaction.

*Scarlet Fever.*—During the past 18 months, an epidemic of rather unusual extent has been present in Leeds. This is reflected in the last annual report of the hospital wherein it is noted that 17 members of the staff developed scarlet fever and spent 602 days in hospital in consequence. When a period of sick leave is added in each case, it is obvious that this disease has occasioned a considerable expense to the hospital. It is calculated that at least £120 was required to find substitutes for members of the staff thus incapacitated.

It was decided to commence prophylactic inoculation on 1st April, 1929, and from that date, all new members of the nursing staff were Dick tested to ascertain susceptibility and immunised if necessary. Immunisation consisted in the inoculation of gradually increasing doses of scarlatinal toxin at weekly intervals. The dosage employed was 500, 2,000, 5,000 and 20,000 skin doses.

The reactions were almost invariably of a mild description, rarely giving rise to more than local discomfort. As with diphtheria prophylaxis, the practice has been confined to the nursing staff.

During 1929, 11 members of the staff developed scarlet fever, of whom eight took ill before the commencement of prophylaxis. Of the remaining three, one was a maid and the others were nurses who joined the staff before 1st April and were accordingly not inoculated. It appears therefore that of members of the staff who were neither tested nor immunised, 11 developed scarlet fever, while of members of the staff who were tested and immunised, none developed scarlet fever.

Details of immunisation are as follows :—

Result of Dick Test.			Total Positive Reactors.	Total Negative Reactors.	Number Immunised.	Developed Scarlet Fever.
+	9	..	10 (16·6%)	..	10	..
±	1	..		..	..	..
—	50	..	..	50 (83·4%)	..	..

Pseudo reactions=nil.

+ =positive reaction.

± =weakly positive reaction.

— =negative reaction.

**Laboratory.**—For diagnosis and discharging purposes, 3,072 throat, nose and ear swabs were examined for diphtheria bacilli.

The following additional examinations were made :—

Cerebro-spinal fluid	..	..	..	6
Sputum	..	..	..	4
Pus (bacteriological examination)	..	..	..	13
Fæces (for enterica organisms)	..	..	..	31
Urine (for enterica organisms)	..	..	..	26
Urine (chemical and bacteriological examinations)	..	..	..	27

Weekly chemical analyses of specimens of milk supplied to the hospitals were made, the constituents of which were as follows :—

Percentages.			Fat.	Non-fatty solids.	Total solids.	Specific Gravity at 60° F.
Highest	..	..	5·1	9·1	13·9	1032·9
Lowest	..	..	2·6	8·2	11·4	1029·0
Average	..	..	3·6	8·7	12·3	1031·5

**Poultry Farming.**—(Killingbeck Smallpox Hospital Farm).—  
The following produce was used in the hospitals :—

Eggs 4,445 ; Geese 12 ; Chickens 9 ; Ducks 30.

**Sickness of the Staff.**—In view of the commencement of the practice of immunisation against scarlet fever and diphtheria on April 1st, the details of staff illnesses are shown for the periods January to March, and April to December. It must be mentioned that the statistics refer to the entire hospital staff.

Nature of Illness.	Jan. to March.		April to Dec.		Total.	
	No.	Days in Hospital.	No.	Days in Hospital.	No.	Days in Hospital.
Scarlet Fever .. ..	9	298	2	70	11	368
Diphtheria .. ..	2	35	..	..	2	35
Erysipelas .. ..	..	..	2	34	2	34
Rubella .. ..	1	4	3	19	4	23
Influenza .. ..	3	46	..	..	3	46
Throat conditions (septic) .. ..	5	184	4	50	9	234
Acute rheumatism ..	1	47	..	..	1	47
Appendicitis .. ..	..	..	1	16	1	16
Hysteria .. ..	..	..	1	22	1	22
Abscesses .. ..	2	29	1	15	3	44
Cellulitis .. ..	1	27	..	..	1	27
Street accident ..	..	..	1	23	1	23
Total .. ..	24	670	15	249	39	919
Total for previous year .. ..	..	..	..	..	64	1,691

# LEEDS CITY HOSPITALS, SEACROFT, LEEDS.

YEAR 1929.

## ABSTRACT FROM REGISTERS.

	Small Pox.	Measles.	Scarlet Fever.	Diphtheria.	Tuberculosis.	Enteric Fever.	Pneumonia.	Infantile Diarrhoea.	Other Diseases.	For Quarantine (Cottages).	TOTAL.
Patients remaining in Hospitals and Isolation Cottages, on Monday, December 31st, 1928 ..	1	5	440	58	..	1	3	..	30	..	538
Admitted from January 1st, 1929, to December 31st, 1929 .. ..	24	166	3,076	505	..	7	37	8	372	9	4,204
Total treated .. ..	25	171	3,516	563	..	8	40	8	402	9	4,742
Discharged .. ..	25	158	3,202	462	..	5	30	6	356	9	4,253
Died .. ..	..	12	23	19	..	2	10	2	36	..	104
Mortality per cent. ..	..	7.1	0.7	4	..	28.5	25	25	9.2	..	2.4
Patients remaining in Hospitals and Isolation Cottages, on Tuesday, December 31st, 1929 ..	..	1	291	82	..	1	..	..	10	..	385
Average stay in Hospital for recovered patients ..	20.4	20.1	37.4	37.4	..	62	30.2	20.8	24	11.3	35.5

NUMBER OF ADMISSIONS DURING EACH OF THE  
LAST TWENTY YEARS.

YEAR.	Seacroft Hospital.		Small Pox Hospital.	Admitted to all Hospitals.	Cottages for Contacts.	Total No. Admissions.
	Infectious Diseases.	Tuberculosis.				
1910-11	2,674	..	1	2,675	87	2 762
1911-12	2,634	..	1	2,635	109	2,744
1912-13	1,995	*98	..	2,093	104	2,197
1913-14	2,383	*528	..	2,911	52	2,963
1914-15	2,233	*597	5	2,835	38	2,873
1915-16	1,999	*399	1	2,399	29	2,428
1916-17	1,440	*482	..	1,922	11	1,933
1917-18	1,366	*545	..	1,911	6	1,917
1918-19	1,349	*421	..	1,770	8	1,778
1919-20	2,668	*378	..	3,046	33	3,079
1920-21	2,148	..	..	2,148	4	2,152
1921-22	2,430	..	..	2,430	6	2,436
1922-23	3,265	..	1	3,266	18	3,284
1923-24	2,185	..	..	2,185	16	2,201
1924-25	2,033	..	8	2,041	73	2,327
1925-26	1,944	..	4	1,948	8	1,956
1926-27	1,632	..	3	1,635	9	1,644
1927-28	1,793	..	81	1,874	186	2,060
*1928-29	4,059	*51	46	4,156	39	4,195
†1929	4,171	..	24	4,195	9	4,204

\*Beds set apart for cases of tuberculosis in Seacroft hospital.

\*\*Ward taken over at Holbeck Infirmary for scarlet fever patients for three months.

†Year ending December 31st instead of March 31st.

# METEOROLOGICAL RECORD.

(Observations made at 9.30 a.m.).

HEIGHT FROM GROUND:—Barometer, 2 ft.; Thermometers, 4 ft.; Rain Gauge, 1 ft. (235 ft. above sea-level).

1920.	•BARO- METER, 9-30 a.m.	TEMPERATURE.				RAINFALL.				WIND—No. of Observations.																	
		Shade—Minimum and Maximum.				Total Inches.	Max. in 24 hrs.	Date.	No. of days on which "or" or more fell	N	N.N.E.	N.E.	E.N.E.	E.	E.S.E.	S.E.	S.S.E.	S.	S.S.W.	S.W.	W.S.W.	W.	W.N.W.	N.W.	N.N.W.		
		Mean.		Min.	Date.																					Max.	Date.
January	30.272	34.1	21	15	54	19	2.17	0.42	28	17	—	1	9	1	—	4	—	—	1	5	—	—	—	—	5	5	
February	30.105	30.4	12	13-16	63	1	0.69	0.28	9	9	—	2	2	—	3	11	4	—	—	2	—	—	—	—	3	1	
March ..	30.351	42.8	15	1	74	29	0.37	0.31	21	6	—	1	6	—	—	2	3	—	1	2	2	—	—	2	9	3	
April ..	30.018	40.5	23	21	65	7-19	1.08	0.35	4	7	—	1	11	—	1	—	1	1	—	4	—	2	—	7	2		
May ..	29.961	54.5	32	1-3	76	23-24	1.31	0.32	5	12	—	—	14	—	1	1	1	—	2	6	4	—	1	1	—		
June ..	29.972	56.1	38	4	77	19-21	1.16	0.28	12	11	—	—	6	—	—	1	—	—	3	3	7	2	1	4	3		
July ..	29.988	60.2	38	7	85	21	2.61	0.86	4	8	—	3	3	—	—	6	1	—	—	6	2	1	—	6	3		
August ..	29.923	58.0	42	15-25	76	26	2.30	0.51	3	14	1	1	2	—	—	2	—	1	2	11	2	2	1	6	—		
September	30.102	56.5	34	13-30	82	8	0.45	0.23	30	6	—	1	1	—	—	1	1	3	2	2	6	1	1	11	—		
October..	29.751	47.6	26	31	66	4-5	2.63	0.67	5	13	—	1	—	—	—	1	1	2	3	5	5	1	2	7	2		
November	29.669	43.6	24	14-15	63	1-24	4.79	0.80	18	20	—	1	1	—	—	1	4	1	6	5	3	—	2	4	1		
December	29.541	41.4	27	21	56	19	5.24	0.62	23	24	—	2	—	—	—	3	1	—	4	7	7	1	3	3	—		
Year ..	29.971	47.1	12	Feb. 13 and 16	85	July 21	24.80	0.86	July 4	147	1	14	55	1	1	6	33	17	8	24	58	38	10	13	66	20	

\* Corrected to temperature and mean sea level at Liverpool.

W = 64.3%

E = 35.7%



## METEOROLOGICAL RECORD.

1929.	SUNSHINE.		•WIND—FORCE.		EARTH TEMPERATURE. (4' 0" below surface).		
	SUN- SHINE. Total, hr. min.	Max. in 24 hrs. hr. min.	Date.	No. of days no Sunshine.	Daily Average, miles per hour.	Max. in 24 hrs. miles per hour.	
January	.. 41.20	6.20	24	16	..	..	37.5 27
February	.. 46.10	7.0	14	9	..	..	37.0 22-28
March ..	.. 182.25	11.30	29	4	..	..	35.0 15-19
April ..	.. 169.20	10.50	30	..	..	..	39.0 1-2
May ..	.. 214.20	14.40	25	..	..	..	42.5 31
June ..	.. 222.50	14.10	18	1	..	..	48.0 42.5 1-6
July ..	.. 208.50	14.20	13	..	..	..	52.0 30 2-16-17
August ..	.. 181.20	10.20	30	2	..	..	56.5 25-28 51.0 4-6
September	.. 207.50	10.40	8	..	..	..	56.5 1-2 55.5 11-24
October	.. 130.25	8.50	2-9	1	..	..	57.0 2 55.5 27-30
November	.. 60.50	6.50	8	11	..	..	55.0 2-4 50.5 27
December	.. 46.00	4.30	6-17	12	..	..	50.0 1-3 45.5 22-30
Year	.. 1711.40	14.40	May 25	56	..	..	46.0 3 42.0 29-31
			Sept. 2				57.0 37.0 Feb. 22-28

• Anemometer out of order.

## BACTERIOLOGICAL WORK.

The following is a complete summary of the work done for the Health Department by the Department of Pathology and Bacteriology in the Leeds University Medical School, under the supervision of Professor James W. McLeod, the City Bacteriologist.

### GENERAL.

Nature of pathological or bacteriological investigation.	Number of specimens.
Diphtheria—	
Swabs for Klebs Loeffler bacillus .. .. .	2,280
Tuberculosis—	
Sputum for tubercle bacillus .. .. .	1,936
Urine for tubercle bacillus .. .. .	4
Pus and other Fluids for tubercle bacillus .. .. .	16
Fæces for tubercle bacillus .. .. .	1
Typhoid—	
Fæces for Typhoid group of organisms .. .. .	20
Agglutination (Widal) Test for typhoid group .. .. .	25
Mussels for Typhoid Group .. .. .	9
Other—	
Pus and Fluids for organisms .. .. .	14
Urine for organisms .. .. .	15
Blood for organisms .. .. .	1
Guinea Pig Inoculations—	
Fluids for culture and guinea pig inoculation .. .. .	26
Milk for Guinea pig inoculation .. .. .	92
Food Investigations—	
Milk for bacterial count .. .. .	9
Milk direct examination .. .. .	3
Food for organisms .. .. .	2
Water Investigations—	
Water bacteriological examinations .. .. .	48
Water bacterial count .. .. .	2
Other—	
Hair for ringworm .. .. .	4
Swabs for organisms .. .. .	2
TOTAL .. .. .	4,509

## AMBULANCE WORK AND DISINFECTION.

**Ambulance Work.**—During the year under review 4,875 cases were removed by the ambulances to the City Hospital, Killingbeck Sanatorium and other hospitals or lying-in institutions. In addition nine contacts were conveyed to the isolation cottages at the City Hospital, and seven puerperal cases to Seacroft on behalf of the West Riding County Council. Over and above these, 207 other journeys were made for the transference of patients from one institution to another or for returning patients home on discharge from hospital.

The following are details of the cases removed to hospital by the ambulances, viz. :—

Smallpox .. .. .	24
Scarlet Fever .. .. .	3,078
Diphtheria .. .. .	557
Typhoid .. .. .	14
Measles .. .. .	150
Tuberculosis .. .. .	190
Other diseases .. .. .	274
Maternity .. .. .	588
<b>TOTAL .. .. .</b>	<b>4,875</b>

(As compared with 4,268 in 1928).

The total mileage run by the ambulances was 42,327, compared with 40,994 during 1928. During the year a new Daimler ambulance (U.A. 8804) was purchased and put on the road. There are now three Daimler ambulances, one maternity ambulance and three bedding vans.

**Disinfection.**—The following work was done by the disinfecting staff, viz. :—

Houses disinfected .. .. .	5,204
Rooms .. .. .	9,578
Beds and Mattresses .. .. .	5,846
Articles of bed linen .. .. .	39,833
Articles of clothing .. .. .	56,447
Other articles .. .. .	8,378

Disinfectant baths were provided and disinfection of clothing carried out in respect of 721 infectious disease contacts.

The total mileage run by the disinfection and bedding vans was 25,619.

**Verminous Persons.**—The number of verminous persons dealt with at the cleansing station was 445, while 85 rooms in 24 houses, and 8,912 articles of clothing and bedding were disinfested. One notice was served during the year under Section 46 of the Public Health Act, 1925.

## Venereal Diseases.

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There were 17 deaths certified during the year as due to syphilis which is equal to a death-rate of 0·04 per thousand of the population. Of these, nine were children under one year of age—five males and four females; one female between 2 and 5; one female between 25 and 45; three males and two females between 45 and 65; and one male over 65. The number of deaths in 1929 shows a decrease of three as compared with the previous year.

**Work of the Treatment Centre.**—The total number of new cases registered at the centre at the Leeds General Infirmary from Leeds and the contributory areas during the year was 1,813. There were decreases in syphilis, male 8, female 18; gonorrhœa, male 86; other diseases not venereal, female 2; and increases in gonorrhœa, female 36; and other diseases not venereal, male 68. There was, therefore, a total decrease of 10 cases of all kinds as compared with the figure for the previous year.

Turning to the Leeds cases the total number of new cases registered was 1,468, comprising 233 males and 122 females suffering from syphilis, 509 males and 134 females suffering from gonorrhœa, and 388 males and 82 females suffering from other diseases not venereal. These figures represent a decrease in the case of syphilis of 7 males and 13 females, in gonorrhœa a decrease of 60 males and an increase of 29 females, and in other diseases not venereal an increase of 54 males and a decrease of two females.

The total attendances of all Leeds cases was 61,158 or an increase of 284 over the figure for the previous year.

The number of cases ceasing to attend before completion of treatment was 520 as compared with 586 for the previous year. The number is however still in excess of what it ought to be and represents a very considerable loss to the city. Every endeavour is made by the staff of the clinic to follow up defaulters, and where they are still resident in the city and their addresses known, attempts are made to induce them to continue treatment until completion.

The fact that so many default is a weakness in the scheme which I am afraid can only be remedied by the acquisition of statutory powers to compel attendance.

The number of in-patients treated at the Leeds General Infirmary during the year was three as compared with six for the previous year and the corresponding number of in-patient days were 355 and 148 respectively.

**Institutions.**—*Maternity Hospital.*—The number of new cases admitted as in-patients to the Leeds Maternity Hospital increased from 22 in 1928 to 52 in 1929 namely, 36 syphilis, and 16 gonorrhœa. The in-patient days increased from 632 to 676. The completion of the new out-patient department has made it possible for a greater number of cases to be treated as out-patients, hence the small increase in the number of in-patient days in 1929 as compared with 1928 notwithstanding the greater number of cases treated.

*The Hope Hospital.*—The chief function of the Hope Hospital is to deal with women and girls of the rescue class suffering from venereal diseases. The number of cases treated was 48 as against 54 for the previous year, whilst the number of new admissions decreased from 35 to 33. The in-patient days decreased from 6,400 in 1928 to 6,059. It should be pointed out, however, that these figures do not include babies admitted with their mothers or born whilst their mothers were in residence.

On behalf of the Health Committee I should like again to acknowledge our indebtedness to the Voluntary Committee for the good service it has rendered during the year and express our thanks for the same.

Further particulars of the cases admitted to and treated in the Maternity and Hope Hospitals are given in the table on page 93.

For particulars respecting propaganda in connection with venereal diseases see page 252.

**Supply of Salvarsan Substitutes.**—The number of medical practitioners in the area qualified to receive free supplies of salvarsan substitutes up to the end of the year was 49. The amount of salvarsan substitutes distributed to practitioners was 1,168 doses, a decrease of 81 on the figure for 1928.

## LEEDS GENERAL INFIRMARY (LOCAL TREATMENT CENTRE).

Cases on the register on January 1st, 1929 ..	2,118
Old cases re-admitted .. .. .	33
New cases admitted .. .. .	1,813
Cases ceased to attend .. .. .	520
Transferred to other centres .. .. .	214
Discharged on completion of treatment .. ..	1,266
Cases on the register on January 1st, 1930 ..	1,964

WORK DONE IN THE DEPARTMENT OF PATHOLOGY AND  
BACTERIOLOGY OF THE UNIVERSITY OF LEEDS IN CONNECTION  
WITH THE V.D. REGULATIONS.

NATURE OF TEST.	NUMBER OF TESTS.
For detection of spirochetes—	
for treatment centre .. .. .	34
for practitioners .. .. .	..
for institutions.. .. .	2
For detection of gonococci—	
for treatment centre .. .. .	1,982
for practitioners .. .. .	232
for institutions .. .. .	336
For Wassermann reaction—	
for treatment centre .. .. .	2,642
for practitioners .. .. .	285
for institutions .. .. .	2,406
Other examinations—	
for treatment centre .. .. .	1,469
for practitioners .. .. .	7
for institutions .. .. .	22
TOTAL .. .. .	9,417

PERSONS TREATED AT THE GENERAL INFIRMARY, LEEDS.  
(LOCAL TREATMENT CENTRE).

				Year 1928.		Year 1929.		Increase or decrease.	
				M.	F.	M.	F.	M.	F.
Syphilis ..	first cases	..	..	304	187	296	169	- 8	- 18
Soft chancre	"	..	..	..	..	..	..	..	..
Gonorrhœa	"	..	..	679	136	593	172	- 86	+ 36
Other diseases									
not Venereal	"	..	..	407	110	475	108	+ 68	- 2
Total	..	..	..	1,390	433	1,364	449	- 26	+ 16
Total attendances of all cases				71,391		73,542		+ 2,151	
Aggregate No. of In-patient days .. ..				148		355		+ 207	
No. of doses of Salvarsan substitutes .. ..				13,018		15,074		+ 2,056	
Pathological specimens examined :—									
Spirochetes .. ..				48		40		- 8	
Gonococci .. ..				3,217		4,094		+ 877	
Other organisms .. ..				8		2		- 6	
Blood—Wassermann reaction .. ..				3,533		3,355		- 178	

LEEDS PATIENTS

	Year 1928.		Year 1929.		Increase or Decrease.	
	M.	F.	M.	F.	M.	F.
Syphilis .. .. first cases	240	135	233	122	- 7	- 13
Soft chancre .. ..	..	..	..	..	..	..
Gonorrhœa .. ..	569	105	509	134	- 60	+ 29
Other diseases, not Venereal .. ..	334	84	388	82	+ 54	- 2
Total .. ..	1,143	324	1,130	338	- 13	+ 14
Total attendances of all cases	60,874		61,158		+ 284	
Aggregate No. of In-patient days .. ..	38		28		- 10	
No. of doses of Salvarsan sub- stitutes .. ..	9,795		11,293		+ 1,498	
Pathological specimens examined :—						
Spirochetes .. ..	43		34		- 9	
Gonococci .. ..	2,701		3,451		+ 750	
Other organisms .. ..	..		..		+ —	
Blood—Wassermann re- action .. ..	2,746		2,642		- 104	



## MATERNITY HOSPITAL, 42, HYDE TERRACE.

	Cases in residence on Dec. 29th, 1928.	Cases admitted.	Cases discharged.	Cases in residence on Dec. 28th, 1929.
Syphilis .. ..	..	36	35	1
Gonorrhœa .. ..	..	16	14	2
Syphilis and Gonorrhœa .. ..	..	..	..	..
Other disease .. ..	..	..	..	..
Total .. ..	..	52	49	3

Total days in residence .. .. 676

No. of doses of Salvarsan substitute .. 144

**Pathological specimens examined :—**

Spirochetes .. .. —

Gonococci .. .. 3

Other organisms .. .. —

Blood—Wassermann reaction.. .. 103

## HOPE HOSPITAL, 126, CHAPELTOWN ROAD.

	Cases in residence on Dec. 29th, 1928.	Cases admitted.	Cases discharged.	Cases in residence on Dec. 28th, 1929.
Syphilis .. ..	3(+3)	6(+ 2)	4(+3)	5(+2)
Gonorrhœa .. ..	12(+4)	26(+14)	23(+13)	15(+5)
Syphilis and Gonorrhœa .. ..	..	1	1	..
Other disease .. ..	..	..	..	..
Total .. ..	15(+7)	33(+16)	28(+16)	20(+7).

Total days in residence .. .. 6,059(+2,813)

No. of doses of Salvarsan substitute .. 150

**Pathological specimens examined :—**

Spirochetes .. .. —

Gonococci.. .. 60

Other organisms .. .. 4

Blood—Wassermann reaction.. .. 54

Of the 33 women admitted, 16 had babies shown in the above table in brackets.

DEATHS FROM DIARRHŒA AND ENTERITIS UNDER TWO YEARS AND METEOROLOGICAL CONDITIONS  
IN EACH MONTH OF THE YEAR.

1929.	Jan.	Feb.	Mar.	April.	May.	June.	July.	Aug.	Sept.	Oct.	Nov.	Dec.	Year.
Deaths .. ..	2	6	6	1	1	8	7	13	12	17	9	4	86
Barom. (inches) ..	30.09	30.00	30.20	29.93	29.84	29.89	29.88	29.86	30.01	29.67	29.45	29.46	29.86
Attached Ther.°F. ..	53.22	53.21	59.87	61.31	63.32	64.69	67.71	67.46	67.94	58.32	55.08	52.41	60.41
Dry Bulb .. ..	38.68	33.98	47.19	47.88	56.02	60.38	64.83	63.38	61.62	51.32	47.35	44.25	51.67
Wet Bulb .. ..	36.97	32.23	45.12	43.57	50.71	55.06	59.37	58.67	57.35	48.29	45.50	42.02	47.99
Humidity .. ..	85.28	79.98	75.25	72.3	69.89	70.69	71.54	74.35	76.27	80.31	86.65	83.41	77.12
Mn. of highest reading ..	41.69	40.46	56.68	54.43	62.51	66.25	70.71	69.79	69.14	55.77	50.61	47.89	57.20
„ lowest „ ..	33.60	28.46	38.11	39.22	44.97	49.64	54.43	53.57	51.82	43.86	40.89	37.96	43.13
„ daily range ..	8.09	12.00	18.57	15.21	17.54	16.61	16.28	16.22	17.32	11.91	9.72	9.93	14.07
Total rainfall (inches) ..	1.76	0.14	0.22	0.81	1.58	0.56	3.09	0.89	0.30	2.70	4.26	4.43	20.74
Sunshine (hours) ..	15.37	24.17	140.67	158.25	187.58	172.83	163.75	156.67	167.83	92.58	26.00	27.00	1332.70

The meteorological data are compiled from returns sent us by Mr. Ricketts, the Curator of the Museum.

They are uncorrected readings, made at 10 a.m. and 4 p.m.

## Tuberculosis.

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The total number of names on the tuberculosis register on December 31st, 1929, was 6,076 as compared with 7,867 at the corresponding period of last year, a decrease of 1,791.

There were added to the register during the year on account of fresh notifications and inward transfers 899 names and removed from the register on account of cancellations owing to death, removal from the city, and cure or change in diagnosis, 2,690 names.

The register was revised throughout in 1925, and since then a constant revision has been maintained so that it may be said to-day that the register is up-to-date.

The year was marked by a further decline in the incidence of the disease, though it was in the pulmonary rather than in the non-pulmonary group that the fall took place. This is enlarged upon in a succeeding paragraph.

Viewed from the standpoint of mortality, however, the year was not so favourable, the explanation probably being the unusual prevalence of respiratory conditions, particularly influenza, in the first quarter. It is a commonplace that influenza during its periodic visitations carries off many of the weaklings and as the tuberculous subject has very poor resisting power he readily falls an easy victim.

**Statistics.—Notifications.**—During the year, 743 cases of pulmonary and 156 of non-pulmonary tuberculosis were notified, making a total of 899 cases, of which 486 were males and 413 females. Compared with the previous year this is a decrease of 23 in the number of notifications of pulmonary tuberculosis and 2 of non-pulmonary, and compared with the average of the previous five years a decrease of 414 pulmonary and 5 non-pulmonary. Of the total cases notified, 808 were by medical practitioners and 91 came from institutions.

Of the total cases of pulmonary tuberculosis notified during the year 14.5 per cent. were children under 15 years of age and 85.5 per cent. persons over 15 years, the corresponding figures for the previous year being 15.1 per cent. and 84.9 per cent. As regards the non-pulmonary type of the disease, 62.8 per cent.

were children under 15 years of age and 37·2 per cent. persons over 15 years. The corresponding figures for the previous year were 57·0 per cent. and 43·0 per cent.

This is the fourth successive year in which a fall in the number of notifications of tuberculosis (all forms) received has to be recorded. The decline has been steady and continuous and is more marked in the age group 5-15 than in any of the other age-groups. It is also gratifying to note that for the third year in succession there has been a drop in the incidence of pulmonary tuberculosis in children under 15 years of age. All this is to the good and proves that the efforts made by the Public Health Department and other agencies in the city to combat the disease, improve conditions of living, abate poverty and overcrowding and spread knowledge respecting the principles of hygiene amongst the people are bearing fruit. Little by little the disease is surrendering its strongholds and very soon we shall be within sight of complete victory. But there is still a good deal of fighting to do before the enemy strikes his flag, though if the pressure in all parts of the field is maintained, and we continue to advance at the same rate as we have in the last four years, the issue ought to be placed beyond doubt during the lifetime of the present generation.

The number of cases of pulmonary tuberculosis not heard of until the time of death was 33 and the number of non-pulmonary 34. In addition there were two posthumous notifications of pulmonary tuberculosis and 20 of non-pulmonary. There was, therefore, a total of 89 cases of all forms not heard of until after death, an increase of nine on the figure for the previous year (80). The table on page 104 illustrates in greater detail how medical practitioners have failed to recognise the statutory obligation imposed on them with respect to notification. Out of a total of 621 deaths from tuberculosis of all forms 229, or 36·9 per cent., were notified in the same year as death occurred, 99, or 15·9 per cent., in the same month and 66, or 10·6 per cent., in the same week. In the previous year there were 204 deaths, or 37·6 per cent., notified in the same year that death occurred, 87, or 16·1 per cent., in the same month, and 52, or 9·6 per cent., in the same week. The figures are, therefore, rather less favourable than for the previous year.

An analysis of the notifications in age groups will be found in the table on page 98.

During the year the notification register has again been revised and an attempt made to make it conform more closely with the Dispensary register. I am, of course, aware that there must be a considerable discrepancy between the two. In past years this has been out of all proportion and has undoubtedly been due to cases being retained on the notification register which ought to have been cancelled. The result of the revision undertaken during the year was as already stated, the removal of 1,791 names. This subject is further referred to on page 107.

*Deaths.*—The total deaths from tuberculosis of all types during the year numbered 621, of which 361 were males and 260 females. In the previous year the total was 542, comprising 323 males and 219 females. Of the total, pulmonary tuberculosis accounted for 508, or 81·8 per cent., and non-pulmonary 113, or 18·2 per cent. The death-rate from pulmonary tuberculosis was 1·06 and from non-pulmonary 0·24, making a total death-rate from all forms of the disease of 1·30. These rates represent an increase of 0·11 in the pulmonary and 0·05 in the non-pulmonary and on the total an increase of 0·16 as compared with the corresponding figures of the previous year. Set against the average rates of the previous five years they represent an increase of 0·04 and 0·02 in the pulmonary and non-pulmonary rates respectively, and on the total rate an increase of 0·06. As already stated in an earlier paragraph the increase in the death-rate from pulmonary tuberculosis was no doubt due in some measure to the epidemic of influenza which raged in the first quarter of the year. The fact that out of a total of 508 deaths no less than 180 or 35·4 per cent. occurred in this quarter supports this assumption. The death-rate for the first quarter was 1·53; for the second 1·09; for the third 0·85; and for the fourth 0·80.

The provisional death-rates for England and Wales for the year were, for pulmonary tuberculosis 0·79, for non-pulmonary 0·17, making a total death-rate for all forms of 0·96. Comparing these rates with Leeds, it will be noted that the Leeds rates were higher by 34·2 per cent. in the case of pulmonary tuberculosis, by 41·2 per cent. in non-pulmonary, and by 35·4 per cent. in all forms of the disease. It should be noted that the death-rate from pulmonary tuberculosis for England and Wales for 1929 shows a similar increase over the rate for last year, as does the Leeds rate and probably for the same reason.

Notifications of tuberculosis received during the year.

PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	..	8	50	88	65	67	78	34	11	401
Females ..	..	12	38	100	87	49	40	10	6	342
Totals..	..	20	88	188	152	116	118	44	17	743

NON-PULMONARY.

Ages.	-1	1-5	5-15	15-25	25-35	35-45	45-55	55-65	65+	Total.
Males ..	4	25	19	19	7	4	3	4	..	85
Females ..	..	22	28	12	4	4	1	..	..	71
Totals ..	4	47	47	31	11	8	4	4	..	156

TUBERCULOSIS.

YEAR.	DEATHS.						NOTIFICATIONS.					
	Pulmonary tuberculosis.		Non-pulmonary tuberculosis.		All forms tuberculosis.		Pulmonary tuberculosis.		Non-pulmonary tuberculosis.		All forms tuberculosis.	
	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.	Cases.	Case-rate.	Cases.	Case-rate.	Cases.	Case-rate.
1919	542	1.26	177	0.41	719	1.67	1,076	2.50	208	0.48	1,284	2.98
1920	552	1.23	146	0.33	698	1.56	962	2.14	209	0.47	1,171	2.61
1921	519	1.11	122	0.26	641	1.37	867	1.86	234	0.50	1,101	2.36
1922	533	1.14	120	0.26	653	1.40	824	1.77	172	0.37	996	2.14
1923	515	1.10	122	0.26	637	1.36	1,002	2.13	197	0.42	1,199	2.55
1924	513	1.09	144	0.31	657	1.40	1,191	2.53	180	0.38	1,371	2.91
1925	511	1.08	88	0.19	599	1.27	1,720	3.64	149	0.32	1,869	3.96
1926	477	1.01	108	0.23	585	1.24	1,299	2.74	161	0.34	1,460	3.08
1927	457	0.96	101	0.21	558	1.17	811	1.70	155	0.32	966	2.02
1928	453	0.95	89	0.19	542	1.14	766	1.61	158	0.33	924	1.95
1929	508	1.06	113	0.24	621	1.30	743	1.55	156	0.33	899	1.88



## PULMONARY TUBERCULOSIS.

## AGES AT DEATH.

1929.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	4	1	3	25	34	110	115	15	307
Females	3	2	..	33	40	84	32	7	201
TOTALS	7	3	3	58	74	194	147	22	508
Average 10 years 1919-1928	16	7	15	49	57	207	135	21	507

## NON-PULMONARY TUBERCULOSIS. DEATHS.

1929.	Tubercular meningitis.	Abdomin- al.	Bones and Joints.	Other tuber- culosis.	Total.
Males ..	25	5	4	20	54
Females ..	28	10	5	16	59
Totals ..	53	15	9	36	113

## AGES AT DEATH.

1929.	-5	5-10	10-15	15-20	20-25	25-45	45-65	65+	Total.
Males ..	24	6	2	5	2	7	8	..	54
Females	29	6	2	5	2	8	6	1	59
Totals ..	53	12	4	10	4	15	14	1	113
Average 10 years 1919-1928	51	15	9	12	7	14	11	3	122



With reference to the death-rate for pulmonary tuberculosis it will be noticed on referring to the table on page 34 that amongst the large towns of England and Wales, Leeds occupied tenth place, the towns with lower rates being London, Birmingham, Sheffield, Bristol, West Ham, Hull, Bradford, Stoke-on-Trent and Nottingham, and with higher, Liverpool, Manchester and Newcastle. As regards non-pulmonary tuberculosis, Leeds also shows up unfavourably, the only towns having higher rates being Liverpool and Newcastle.

*Death Rates in Wards.*—The wards with the highest death-rates from pulmonary tuberculosis were East, East Hunslet, South, West and New Wortley, whilst those with the lowest were Bramley, Headingley, New, Armley and Wortley and Central. The East, South and West were amongst the wards with the highest death-rates in 1928.

The significance of this is obvious, it simply goes to prove the truth of the assertion made in this report on many occasions that where overcrowding, bad housing conditions and poverty abound there one finds fertile soil for the growth and spread of the disease.

The tables on pages 102 and 99 give the analysis of the deaths in the various wards and age groups.

*Occupational Incidence and Mortality.*—For the occupation of persons notified during the year as suffering from tuberculosis of all forms and those dying from the disease, the reader is referred to the table on page 105.

*Hospital Accommodation for Non-Pulmonary Cases.*—In the preceding context I have had occasion to point out the very unfavourable comparison which Leeds makes with the other large towns as far as the death-rate of non-pulmonary tuberculosis is concerned and it has also been noted that there has been little or no reduction in the incidence of this type of the disease during the year as compared with the previous year. One may therefore assume that in this type of the disease the response to our efforts to reduce the output of cases has been less favourable than in the pulmonary type. Generally speaking, non-pulmonary tuberculosis maims rather than kills its victims and we have on our register at the present time no fewer than 1,230 names of persons who have been attacked by this form of the infection. The trouble is one which comes on insiduously mostly in young persons and for its cure requires treatment over a prolonged period. That implies hospital accommodation out of proportion to the actual number

of cases and considerably in excess of that to be provided for any other surgical condition. Not only so, but the accommodation has to be of a special type ; open air and sunshine are essential, and as adjuncts to those, the usual surgical and therapeutic remedies. At the present time it is estimated that the number of cases in Leeds requiring hospital treatment of this sort would be sufficient to occupy a minimum of 60 beds. To meet that demand the Health Committee has at its disposal 20 beds at The Marguerite Home, Thorparch and a varying number at the Lord Mayor Treloar's Hospital at Alton. Obviously the supply is quite inadequate and an effort has been made during the year, and indeed for some years back, to increase the reservation. After much thought and prolonged consideration both by the officers of the Public Health and City Engineer's Departments a scheme was prepared embodying (with other crippling conditions) a unit of 60 beds for the treatment of surgical tuberculosis. Unfortunately, on account of the cost, which for a hospital of this description must under any circumstances be high, the scheme has for the present been held up, and though it has not been finally rejected the delay in arriving at a decision may prolong the present unsatisfactory state of affairs for an indefinite period. It was as far back as 1918 that the question of providing hospital accommodation for surgical tuberculosis was first raised and since then the matter has been considered on several occasions but always without result. That our efforts should once more have proved abortive has been a source of considerable disappointment to me and other members of my staff as we had looked forward to a new hospital on the Elmet Hall Estate being completed and ready for occupation during the current Municipal year. We are not without hope that progress will be made with the scheme before I am called upon to write my next report, and I think it can be confidently said that when built the hospital will more than justify the money expended upon it.

For further reference to this subject see page 112.

**Factory-in-the-Field.**—The factory has continued to play a very useful part in the Leeds scheme for dealing with tuberculosis. During the year the buildings have been altered and brought up-to-date. Provision has been made in a canteen specially built for the purpose for supplying meals to the workers, and other improvements effected which have greatly added to the efficiency of the factory and to the comfort of the staff.

A series of photographs of the factory appear in this report which may be of interest to the readers and give them better than words can express an idea of the lay-out of the building and the nature of the work carried on in the various departments.

For further particulars on this subject see page 125.

**Public Health Act, 1925, Section 62.**—No action was taken under this section during the year, but the threat of action in one or two cases had the effect of improving the home conditions and thus making it possible to retain patients on the domiciliary list.

Owing to the continued prevalence of scarlet fever and diphtheria it was not possible to re-open the special ward at Seacroft Hospital for the reception of advanced and highly infectious cases of tuberculosis and this also added to the difficulty of making full use of the powers conferred on the Local Authority by Section 62.

#### TUBERCULOSIS—DEATHS AND RATES IN WARDS.

MUNICIPAL WARD.	Pulmonary Tuberculosis.		Non-Pulmonary Tuberculosis.		All Forms Tuberculosis.	
	Deaths.	Death-rate.	Deaths.	Death-rate.	Deaths.	Death-rate.
Central .. ..	11	0·87	5	0·40	16	1·27
North .. ..	42	0·95	7	0·16	49	1·11
North-East .. ..	41	1·12	10	0·27	51	1·39
New Ward* .. ..	11	0·80	4	0·29	15	1·09
East .. ..	58	1·61	10	0·28	68	1·88
South .. ..	17	1·31	1	0·08	18	1·39
East Hunslet .. ..	59	1·55	16	0·42	75	1·98
West Hunslet .. ..	39	1·07	7	0·19	46	1·26
Holbeck .. ..	31	1·04	10	0·34	41	1·38
Mill Hill .. ..	5	0·95	1	0·19	6	1·14
West .. ..	28	1·27	6	0·27	34	1·54
North-West .. ..	30	0·95	4	0·13	34	1·07
Brunswick .. ..	25	1·04	6	0·25	31	1·29
New Wortley .. ..	22	1·22	7	0·39	29	1·61
Armley and Wortley	32	0·85	6	0·16	38	1·01
Bramley .. ..	14	0·57	6	0·24	20	0·81
Headingley .. ..	43	0·79	7	0·13	50	0·91
City .. ..	508	1·06	113	0·24	621	1·30

\* Roundhay, Seacroft, Shadwell, Crossgates, and Templenewsam.

The housing conditions of 877 of the 899 cases of tuberculosis (all forms) notified, are shown in the table subtended :—

Rooms in house.	Through house.	Percentage of total throughs.	Back-to-back house.	Percentage of total back-to-back.	Percentage of total cases.
1 room .. ..	6	2.0	5	0.9	1.2
2 rooms .. ..	10	3.3	143	24.9	17.6
3 rooms .. ..	34	11.3	230	40.0	30.1
4 rooms .. ..	62	20.5	150	26.1	24.1
5 rooms .. ..	105	34.8	30	5.2	15.4
6 rooms .. ..	46	15.2	14	2.4	6.8
7 or more rooms	39	12.9	3	0.5	4.8
Total .. ..	302	100.0	575	100.0	100.0

In addition to the 302 through houses and 575 back-to-back houses, there were 22 cases notified from common lodging houses, etc., making a total of 899 cases of all forms of tuberculosis notified during the year.

The sub-joined table indicates the type of house occupied by 221 persons who were notified during 1929 as suffering from tuberculosis of all forms and who died during the year :—

Rooms in house.	Through house.	Percentage of total throughs.	Back-to-back house.	Percentage of total back-to-back.	Percentage of total deaths.
1 room .. ..	4	6.0	2	1.3	2.6
2 rooms .. ..	..	..	47	30.5	21.2
3 rooms .. ..	6	9.0	67	43.5	33.3
4 rooms .. ..	16	23.9	30	19.5	20.8
5 rooms .. ..	20	29.8	3	1.9	10.4
6 rooms .. ..	11	16.4	5	3.3	7.2
7 or more rooms	10	14.9	..	..	4.5
Total .. ..	67	100.0	154	100.0	100.0

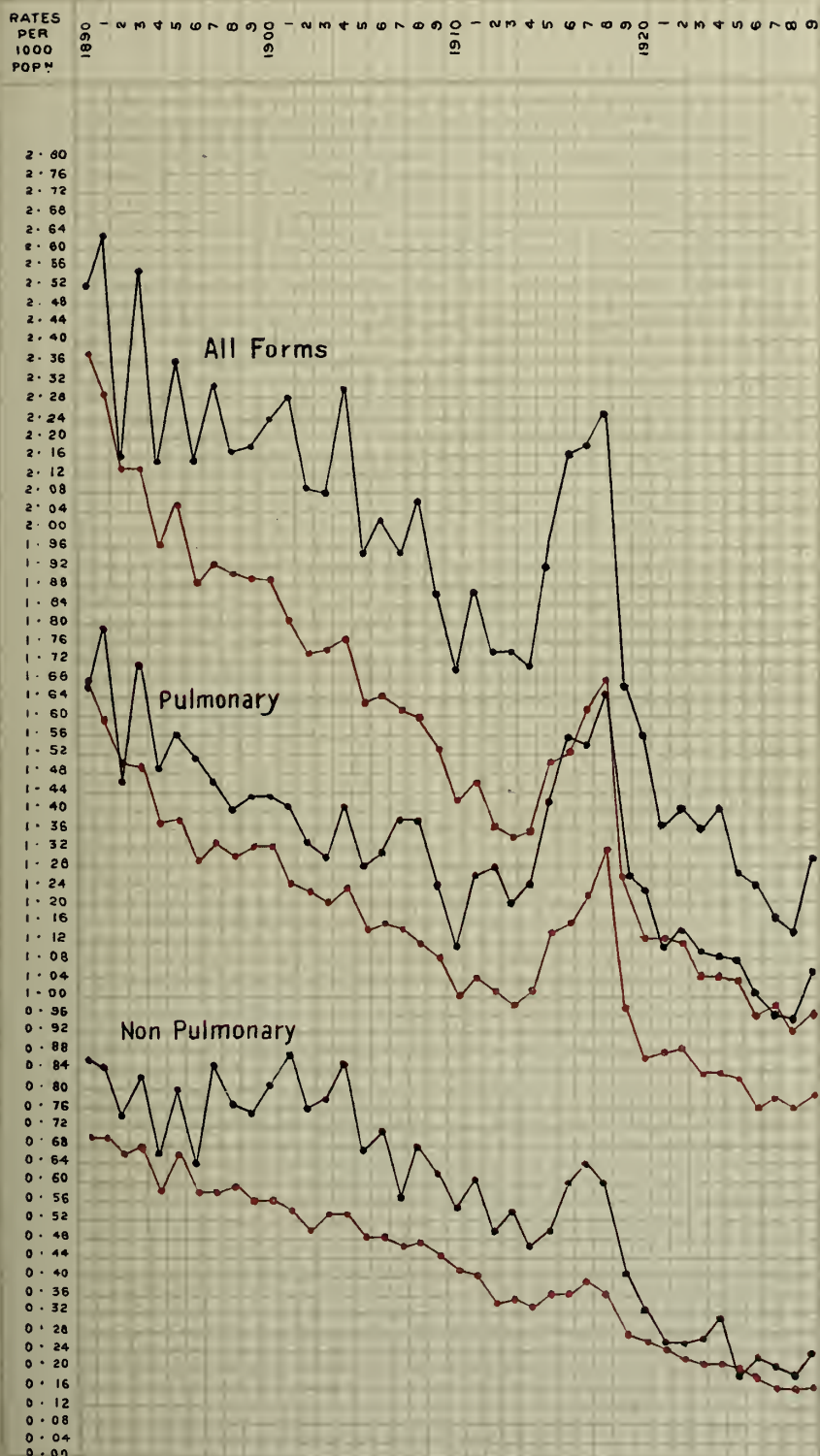
In addition to 67 through houses and 154 back-to-back houses, there were 7 deaths in which the home address was given as common lodging houses, etc.

DEATHS FROM ALL FORMS OF TUBERCULOSIS IN 1929 WITH YEAR  
OF NOTIFICATION.

Year of Notification.			No. dying in 1929.	Percentage of total deaths.
1912	..	..	2	0.3
1913	..	..	1	0.2
1914	..	..	5	0.8
1915	..	..	5	0.8
1916	..	..	5	0.8
1917	..	..	4	0.6
1918	..	..	7	1.1
1919	..	..	9	1.5
1920	..	..	4	0.6
1921	..	..	4	0.6
1922	..	..	7	1.1
1923	..	..	9	1.5
1924	..	..	15	2.4
1925	..	..	26	4.2
1926	..	..	26	4.2
1927	..	..	39	6.3
1928	..	..	113	18.2
1929	..	..	229	36.9
Not notified	..		89	14.3
Died outside City			22	3.6
Total	..		621	100.0



# TUBERCULOSIS DEATH RATE. - 1890 - 1929.







NOTIFICATIONS AND DEATHS FROM ALL FORMS OF TUBERCULOSIS  
OCCURRING IN 1929 CLASSIFIED ACCORDING TO OCCUPATION.

Occupation.	Notifications.		Deaths.	
	Number.	Percentage of total Notifications.	Number.	Percentage of total deaths.
Textile Workers ..	153	17.0	87	14.0
Leather „ ..	18	2.0	15	2.4
Metal „ ..	65	7.2	64	10.3
Coal „ ..	19	2.1	11	1.8
Stone „ ..	14	1.6	12	1.9
Wood „ ..	12	1.3	11	1.8
Other dusty Trades ..	24	2.7	14	2.3
Printers .. ..	29	3.2	14	2.3
Clerks, Typists, etc. ..	41	4.6	31	4.9
House Workers ..	154	17.1	132	21.3
Nurses .. ..	2	0.2	1	0.2
Food Trades, etc. ..	30	3.3	30	4.8
Labourers .. ..	61	6.8	49	7.9
Out-door Worker; ..	39	4.4	37	5.9
Various .. ..	32	3.6	8	1.3
School Age .. ..	133	14.8	21	3.4
Infants .. ..	65	7.2	64	10.3
No Occupation ..	7	0.8	20	3.2
No Trace .. ..	1	0.1	..	..
Total ..	899	100.0	621	100.0

## REPORT ON THE WORK OF THE TUBERCULOSIS

### DISPENSARY AND SANATORIA

BY

NORMAN TATTERSALL, M.D., B.S., Chief Clinical Tuberculosis Officer.

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**Central Tuberculosis Dispensary.**—The tables given on pages 108 and 109 summarise the diagnostic work of the Dispensary during the past twelve months.

Before referring in detail to points of interest which arise from these tables it should be remarked that 1929 was a bad year throughout the whole country as regards the incidence of pulmonary disease. In the early part of the year there was a widespread influenza epidemic, and the period of exceptionally cold weather in January and February was an additional cause of chest complaints. These two factors were probably largely responsible for the increased death-rate from tuberculosis during the year. An additional factor, and one which appears likely to continue for some time, is the continued general trade depression with its inevitable effect on the general well-being of the community.

In comparing the age at death from Pulmonary tuberculosis in 1928 and 1929 it is found that the increase of deaths during 1929, which amounted to 57, occurred entirely in the age group 15-25; in the remaining groups the figures for the two years are almost identical. In the group 15-25 the deaths increased from 75 in 1928 to 132 in 1929. Though this is the age of acute disease, the material factor in lighting up into rapidly progressing active disease many cases whose disease was latent and which might have remained so but for these exceptional circumstances, was probably the prevalence of chest troubles in the early part of the year coupled with the severe climatic conditions. It was also noticeable that, for the same reason, many cases of established disease which were running a slow course went rapidly downhill, many ending fatally, who, under better conditions might have been expected to survive for several years. The figures for the first half of 1930 indicate a return to more normal conditions.

Reference to the statistical details of work at the Dispensary show a further increase in every direction. The total number of new cases referred for an opinion was 1,221, being a slight increase on the previous year. There was a still greater increase in the number of consultations in the patients' own homes, and in the number of patients examined at domiciliary visits. The number of such visits by the medical staff was 823 as compared with 681 and 560 respectively in the two preceding years. It is becoming increasingly difficult in the time at our disposal to fit in all the visits which are called for, at the same time it is an indication that the services offered by the staff are appreciated and utilised.

A continuation has been made of the efforts of previous years to get into touch with all old notified cases who had not been seen at the Dispensary for some time. Enquiries have also been prosecuted into the after history of many patients who had been notified as tuberculous but not referred to the Dispensary. It not infrequently occurs that a doctor notifies a patient as suffering from tuberculosis on what appears at the time to be thoroughly satisfactory evidence, but the subsequent course of the case shows the original diagnosis to have been incorrect.

The practitioner and patient may be satisfied that all is well, but the notification stands for all time in the official register unless steps are taken to cancel it. Our efforts to trace these cases as well as those referred to who were already on the Dispensary Register has led to the writing off of 2,336 such cases during the year under the heading of "cured" or "diagnosis not confirmed" as the case may be. This revision has been in progress for several years and as a result the Dispensary and Notification Registers have become a much truer index of the extent to which the disease exists in the city than was the case in the past.

Of the cases referred for opinion (excluding contacts) exactly 50 per cent. were found within one month of their first attendance, to be definite cases of tuberculosis, precisely the same figure as in 1928. In approximately 50 per cent. of these a positive sputum was obtained at some time during the year.

Of the total number of patients on the Dispensary register at the end of the year 22 per cent. were bacteriologically positive as compared with only 16 per cent. at the end of 1928.



PATIENTS (EXCLUDING CONTACTS) EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY  
FROM JANUARY 1st, 1929 TO DECEMBER 31st, 1929.

PULMONARY TUBERCULOSIS.

	New patients.			Number bacteriologically positive.			Number clinically positive, but not T.B. +.			Number found to be Non-tubercular, lost sight of, etc.			Still under observation.			Number admitted to Sanatoria.							
	M.	F.	B.	M.	F.	B.	M.	F.	B.	M.	F.	B.	M.	F.	B.	M.	F.	B.	G.				
Insured	466	269	..	135	83	..	..	110	62	..	..	195	110	..	..	26	14	..	190	92	..	..	
Non-Insured	55	147	90	93	20	47	..	3	12	41	22	17	20	52	58	3	7	10	15	24	43	32	39

OTHER FORMS OF TUBERCULOSIS.

	New patients.			Bones and Joints.			Abdominal.			Other Organs.			Glands.			Number admitted to Sanatoria.					
	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	M.	F.	B.	G.	
Insured	16	12	..	..	10	3	..	..	..	5	3	..	..	1	3	..	..	6	4	..	..
Non-Insured	5	7	32	29	5	2	12	13	..	2	5	3	..	3	2	..	..	13	13	1	..
																				19	12

Total attendances at Central Tuberculosis Dispensary for—  
(a) Light treatment .. 6,668  
(b) Other special treatments .. 680  
(c) Ordinary clinics : 10,572

Total Number of Clinical Examinations (included in attendances) .. 7,780  
Number of cases making the clinical attendances (excluding Light and Special treatments) 4,772

17,920

*Treatment.*—The Dispensary must remain almost entirely a centre for diagnosis and advice, but certain forms of treatment are undertaken. The most important of these is Artificial Pneumothorax, the refills for which are carried out at the Dispensary after the treatment has been established in an institution or in the patient's home. The amount of work done under this heading was trebled during the year and, as there is every indication of the use of this treatment in the Sanatoria being extended, this side of the Dispensary's activities is likely to grow. After 18 years' experience of Artificial Pneumothorax I am more than ever convinced that for the same type of case the results are better than those obtained from any other form of treatment, and that it is capable of much wider application than is often supposed.

Sanocrysin has been used in a few cases at the Dispensary as well as in the Sanatoria. The results are very variable but there is no doubt as to its value in selected cases.

A certain number of patients who have no panel doctors, or who cannot afford private medical treatment, attend the Dispensary for medicinal treatment. This number is diminishing, as every effort is made to teach patients that improvement will follow rest and generally improved hygiene, rather than through "bottles of medicine." It does seem necessary, however, that a certain number of patients should be supplied with medicinal treatment, but care is taken to point out to them that such methods are for the relief of pressing symptoms rather than for the cure of their disease.

In addition to the foregoing lines of treatment for pulmonary tuberculosis a large number of patients suffering from non-pulmonary tuberculosis are in constant attendance at the Dispensary for application of splints or plaster, aspiration of abscesses, etc. Treatment by Artificial Sunlight and Dental Treatment are dealt with under separate headings.

*Contacts.*—It is satisfactory to report a marked increase in the number of contact examinations during the year, the figure rising by 34 per cent. from 423 examinations in 1928 to 567 last year. It is true that the proportion of contacts found positive is a very small one, but amongst them some of the earliest cases are found. An even more important finding is that this search of the household frequently brings to light a case of chronic disease in a parent or other adult member of the household who has been



the original source of infection. Contact examination is also of direct educational value as it brings home forcibly to the members of the family the danger of the infected home, and even when nothing is found the suspect is warned of the earliest possible manifestations and will more readily come forward for examination at any later time should symptoms arise. This warning is especially necessary in the case of young adults, as it is found that although infected, such contacts may show no detectable signs of disease for a considerable period after their association with infection, the most dangerous period appearing to be some three to five years after contact. For this reason every effort is made to keep in touch for a long period with households where there has been a case of tuberculosis, even after the death of the original case. A detailed analysis of the examination of new contacts is appended.

**"CONTACTS" EXAMINED AT CENTRAL TUBERCULOSIS DISPENSARY  
FROM JANUARY 1st, 1929 to DECEMBER 31st, 1929.**

	New Contacts Examined.	Found Sputum T.B.+	Clinically definite, but sputum negative.	Diagnosed Non- Pulmonary Tubercle.	Found to be Non- Tubercular, lost sight of, etc.	Remaining under observa- tion.
Males .. ..	88	1	6	..	76	5
Females .. ..	162	4	8	2	136	12
Boys .. ..	159	..	16	2	124	17
Girls .. ..	158	1	15	2	125	15
Total .. ..	567	6	45	6	461	49

63 cases remaining under observation on December 31st, 1928, were re-examined, with the following results:—

Definitely diagnosed as tubercular .. .. 27

Marked off as non-tubercular, died, lost sight  
of, etc. .. .. 34

Remaining under observation .. .. 2

Total examinations made = 922 (610 cases).

*Surgical Tuberculosis.*—The number of new cases of non-pulmonary tuberculosis was practically the same as in the previous year.

Of the 101 new patients under this heading 45 were cases of bone and joint disease. Quite apart from this number of cases seen at the Dispensary there is always a large number of patients similarly affected attending the General Infirmary. Others do not



appear in the statistical tables as "non-pulmonary" because they have evidence of pulmonary disease also, and the Ministry of Health's tables require them to be shown under the "pulmonary" heading. Thus there is a much greater problem of surgical tuberculosis in the city than would appear from a casual perusal of the tables. The majority of the cases of bone and joint disease require treatment in Orthopædic Hospitals for an average period of two years. That such cases cannot be adequately dealt with by general hospitals is evidenced by the fact that a large number of cases are referred to the Dispensary each year from the General Infirmary with the request that they shall be transferred forthwith to an Orthopædic Hospital.

The accommodation at our disposal is totally inadequate to meet the demand, and patients have been kept waiting for twelve months or more for beds. The result is that such patients after being fixed on frames or plaster, etc., have to remain for prolonged periods living in sunless courts, or, if they are fortunate, wheeled out occasionally in spinal chairs. They are carried to and from the Dispensary or Infirmary where all that is possible is done, but all the time they are denied the accommodation in special hospitals which, in the great majority of cases, would lead to certain cure of the disease.

It is a matter of the deepest personal regret that no progress is being made in developing the surgical tuberculosis scheme in Leeds. Present conditions are manufacturing cripples, permanently incapacitated for useful occupations. An attempt has been made to admit more of these patients to the Killingbeck Sanatorium and "The Hollies." There are obvious disadvantages to this course. The prolonged period for which treatment is required restricts the bed accommodation which is fully required for pulmonary tuberculosis. Neither of these institutions is staffed or equipped for the efficient handling of cases of this type and in admitting non-pulmonary cases to Killingbeck, with its large wards, it is impossible to avoid mixing pulmonary and non-pulmonary cases in the same ward. This is a practice which cannot be defended, and would on no account be allowed were the problem not so urgent.

A complete scheme to deal with this problem has been evolved but is apparently held up for financial reasons.

The loss to the community through this phase of the tuberculosis problem is difficult to estimate, but it is certain that the development of the Elmet Hall scheme would pay a very high rate of dividend to the city.

*X-Ray Department.*—During the year 1,288 X-Ray films were taken, an increase of 20 per cent. on the previous year. As all the work is done by the medical staff of the Dispensary this represents a very considerable task. No part of the diagnostic work, however, is of greater value or interest. By a system of indexing films of special interest a most valuable collection of films is being built up illustrating not only every type and stage of tuberculous disease but also nearly every other condition which may occur in the chest. Although radiological examination is only part of the complete investigation of any case, in experienced hands it is probably the most valuable single factor in the enquiry. In recent years X-Ray study of chest conditions has thrown an entirely new light on the earliest development and lines of spread of tuberculous disease, and it is of intense interest to be able to follow the researches of other workers through the material at hand and with the excellent plant at our disposal.

*Artificial Sunlight Treatment.*—During the past year 183 patients received treatment in this department. Of these 89 completed treatment, 17 ceased attending prematurely for various reasons, and 77 still remained under treatment at the end of the year. Total attendances numbered 6,668.

Practically all treatment was by general exposure to Carbon Arc lamps, the Kromayer lamp being used for local treatment in a few cases only.

The following is a summary of the results obtained in those cases who completed a full course of treatment :—

*Pulmonary Tuberculosis.*—No attempt has been made to treat progressive disease of adults by this method. The treated cases were children, mostly contacts to infectious cases, who were debilitated and showed evidence of lung infection. All were considered quiescent and the object of treatment was to obtain if possible a general tonic effect, improve nutrition, and build up resistance.

Sixteen cases of this type were treated over varying periods—the average being  $6\frac{1}{2}$  months.

No marked improvement was noticed in the group as a whole, the natural gain in weight was not accelerated and though the factor of "resistance" cannot be assessed there was no obvious indication of increased well-being.

Abdominal Tuberculosis.—Nine cases under this heading were treated and all made striking recovery.

Three were cases of peritonitis, all well marked cases, and one having shown gross involvement of the cæcum at operation. Three had large masses of mesenteric glands and the remainder were cases of salpingitis and oophoritis with peritonitis. Two of the latter had discharging sinuses when treatment commenced.

In all there was marked local and general improvement, the sinuses healed, all but one showed considerable gain in weight, and symptoms cleared up entirely.

Lupus.—Seven cases are still attending for local treatment with the Kromayer lamp combined with general Carbon Arc baths. Satisfactory results are being obtained but the treatment is necessarily prolonged.

Glands of neck.—Nineteen cases of simple glandular enlargement and eight others with skin involvement were treated. The results were satisfactory. Glands decreased and general health improved. In all but one of the cases with sinuses and skin involvement healing was complete after an average period of 11 months treatment.

Bone and Joint Disease.—Thirty-three cases, some with multiple lesions and others with disease limited to one bone or joint were treated. A few discontinued treatment before any result could be obtained. Almost without exception those cases who had prolonged treatment did well, the improvement in several cases who had old standing sinuses being remarkable. Two cases are worthy of quoting in detail:—(1) Disease of the spine, hip, shaft of tibia, radius and one metacarpal. When treatment was commenced there were sinuses with discharge from each of the above bones and the patient had received various forms of treatment over a period of 12 years. Sunlight treatment was given regularly for 18 months with one interval of three months. On the completion of treatment there was deep pigmentation, all sinuses were healed and the patient has now returned to work. (2) A case with multiple abscesses, mostly related to bone, and with old disease of tibia and femur and several sinuses in the groin and lumbar region. During treatment a further abscess developed over the ribs which was aspirated, but did not break down. After 10 months treatment pigmentation was medium and all sinuses healed. He had been off work for four years but has now resumed.

Another excellent result was that of a man aged 61 with disease of the shoulder joint with several sinuses. These healed up entirely and after 20 months treatment there was deep pigmentation and the patient returned to work.

*Summary and Conclusions.*—The cases detailed above would seem to indicate that marked improvement can be expected to result from the treatment by Artificial Sunlight of cases of abdominal tuberculosis, tuberculous glands either with or without skin involvement, and in many cases of tuberculosis of bones and joints.

The complete healing in several cases of sinuses which had persisted for years was remarkable, and is only paralleled in my experience by the results of natural insolation.

Generally speaking, those cases in which pigmentation was most marked achieved the most satisfactory results. The results are sufficiently encouraging to justify the conclusion that for cases falling into the above categories, especially under the conditions obtaining in a smoky and therefore relatively sunless city, artificial sunlight is a valuable asset in treatment.

*Dental Department.*—The dental officer, Mr. W. L. Fleming, now spends one whole day a week at the Dispensary in addition to regular work at Killingbeck Sanatorium and "The Hollies" Open Air School. During the year 496 cases were dealt with at the Dispensary and many more could have been seen but for the fact that prior to going to the Sanatorium many patients are too poorly to attend for the amount of work required, much of which has therefore to be deferred until the patient is admitted. The scheme for the provision of dentures paid for wholly or in part by the patient according to scale, has proved quite satisfactory in operation. This side of Dispensary activity is not spectacular, but is a very necessary and valuable field of activity.

	Extractions.	Fillings.	Scalings.	DENTURES.			Examinations.
				Impressions.	Bites, etc.	Completed.	
T.B. Dispensary	640	20	13	106	106	100	212
Killingbeck ..	471	59	30	—	—	—	374
"The Hollies"	77	1	—	—	—	—	80

*Domiciliary Work.*—The large increase in the number of visits to patients in their homes by the medical staff has already been referred to.

The Nurse visitors made a total of 21,520 visits of which 961 were for environmental reports, 1,089 to contacts and 288 to houses where deaths had occurred.

*Minor Surgical Operations.*—Attendances for sundry surgical treatments totalled 680. This included 38 for splints and plasters, 53 for artificial pneumothorax, and 16 for Sanocrysin. The remainder were for dressings, aspiration of abscesses, etc.

*Clerical.*—It is gratifying to report once more that over 95 per cent. of the National Health Insurance Forms G.P. 36 sent to practitioners have been returned.

These reports are very helpful in recording the progress of the patient for classification purposes. The Ministry of Health request a more general use of National Health Insurance Form G.P. 17 or 35 when referring insured patients to the Tuberculosis Dispensary for diagnosis or treatment.

Co-operation with the various practitioners, Ministry of Pensions, Education Department, Hospitals, and other institutions has been maintained by interchange of reports, etc. Of these no less than 6,394 were sent from the Tuberculosis Dispensary. Correspondence with Institutions, patients, etc. accounted for 3,002 letters and 14,894 appointment and other post-cards.

A revision of all old cases on the Dispensary Register has been carried out during the past year. This has entailed extra work for the clerical staff which has been undertaken in a most creditable manner.

*Mortality of Children in Tuberculous Households.*—This enquiry is still in progress and final figures cannot be given for several years. Cards have been made out for every child known to be born into a house in the city where there was a notified case of tuberculosis from 1925 onwards.

The health of the child is reviewed each year and where death has occurred the certified cause is recorded. It is intended to investigate the mortality of these children in each year of life up to five years of age.

For the years 1925 to 1928 over 900 cards have been completed. Those babies born in 1925 have been observed for four to five years, the 1926 babies for three to four years and so on.

As was remarked last year the figures so far obtained do not indicate any marked increase in mortality during the first year of life as compared with the infantile mortality of the city, but that in succeeding years the death-rate amongst these children is definitely higher than that of the "control" population.



Of 926 babies born into tuberculous contact in the years 1925-1928 all but nine were traced at the end of the first year of life. Of these 716 were contacts of sputum negative cases and 201 to sputum positive cases.

Their state at the end of one year is shown in the following table :—

	Contacts to T.B.- Cases.	Contacts to T.B.+ Cases.	Total.
Died .. ..	51	20	71
Ill with tuberculosis ..	3	4	7
Delicate .. ..	138	29	167
Alive and well ..	524	148	672

This represents a total infantile mortality per 1,000 births of 77·4 whereas for the whole of Leeds over the same period the figure was 86. The contacts of sputum positive cases show a definitely higher mortality than those of sputum negative cases, the figures being 99·5 and 71·2 respectively.

**Institutions.**—The total accommodation at “The Hollies,” Killingbeck and Gateforth was the same on December 31st, 1929, as the previous year, namely, 310 beds (138 males, 78 females and 94 children).

**“The Hollies” Sanatorium School.**—The accommodation of this Institution has been fully occupied during the year, and in spite of there having been much infectious disease in the city generally, “The Hollies” has been more free from infection than in any previous year.

The teaching staff and arrangement of the classes has remained unaltered. The year was very dry and the children were able to spend an exceptionally large amount of their time in the open air. During the Summer months sun-bathing was increasingly carried out and the results as regards the health of the children were entirely satisfactory. Particular care is taken to see that exposure to sunlight is gradually carried out and in no cases were any untoward reactions observed.

**" The Hollies " Sanatorium School.**

PERIOD ENDED 31ST DECEMBER, 1929.

(Ministry of Health Form T.54 (B)—modified).

				Remaining Jan. 1st, 1929.	Admitted.	Discharged.	Remaining Dec. 31st, 1929.	
Pulmonary	Boys	.. {	Under 5	..	..	4	2	2
			Over 5	..	10	21	20	11
	Girls	.. {	Under 5	..	1	5	5	1
			Over 5	..	17	26	35	8
Non-Pulmonary	Boys	.. {	Under 5	..	1	2	2	1
			Over 5	..	4	6	9	1
	Girls	{	Under 5	..	..	..	..	..
			Over 5	..	1	13	7	7
Observation Cases	Boys	.. {	Under 5	..	..	2	2	..
			Over 5	..	3	11	11	3
	Girls	.. {	Under 5	..	..	2	2	..
			Over 5	..	3	11	11	3
Totals .. ..				40	103	106	37	

**ANALYSIS OF CASES DISCHARGED.**

**DURATION OF RESIDENTIAL TREATMENT.**

(Ministry of Health Form T.55—modified).

			Pulmonary.			Non-Pulmonary.			Total.
			Disease Quies- cent.	Disease Im- proved.	Disease not Im- proved.	Disease Quies- cent.	Disease Im- proved.	Disease not Im- proved.	
Under 3 months.	Boys	{ Under 5 ..	..	..	..	..	..	..	} 15
		{ Over 5 ..	2	1	1	..	1	..	
	Girls	{ Under 5 ..	3	..	..	..	..	..	
		{ Over 5 ..	4	..	..	..	2	1	
3-6 months.	Boys	{ Under 5 ..	1	..	..	1	..	..	} 56
		{ Over 5 ..	13	2	..	2	6	..	
	Girls	{ Under 5 ..	1	1	..	..	..	..	
		{ Over 5 ..	25	1	..	..	3	..	
6-12 months.	Boys	{ Under 5 ..	..	..	..	..	..	..	} 7
		{ Over 5 ..	1	..	..	..	1	..	
	Girls	{ Under 5 ..	..	..	..	..	..	..	
		{ Over 5 ..	3	1	..	..	1	..	
Over 12 months.	Boys	{ Under 5 ..	1	..	..	..	..	..	} 2
		{ Over 5 ..	..	..	..	..	..	..	
	Girls	{ Under 5 ..	..	..	..	..	..	..	
		{ Over 5 ..	1	..	..	..	..	..	
Totals .. ..			55	6	1	3	14	1	80
Observation and Negative Cases .. .. .									26
Grand Total .. .. .									106





The children show great interest in the handwork classes which form a part of their teaching and much work of excellent quality was turned out. The garden plot was entirely dug over, planted, and kept in good order by the children, who showed much interest in the practical reward of their labours. The additional plot of land which was taken over as a playground has proved most useful, and it is hoped that in addition to the plank swing which has been erected, other means of recreation will be installed before long.

It is a pleasure once more to record complete satisfaction in the results obtained and to express the opinion that such results are almost entirely due to the interest and devotion of the teaching and nursing staff.

The figures of attendances, etc., as given by the Head Teacher are :—

The number of children admitted to the school register was 89 (boys 40 and girls 49).

The number of school sessions was morning 255, afternoon 254, total 509.

The total number of attendances was 16,395, and the average attendance per session was 32.

The average number on the school register was 40.

**Killingbeck Sanatorium.**—The Medical Superintendent, Dr. W. A. Todd, writes :—

The accommodation at this Sanatorium remains the same, viz., 220 beds, allocated as follows :—male 88, female 78, children 54. The total number of cases treated during the year ended December 31st, 1929, was 818, comprising 353 males, 302 females, and 163 children, as compared with 840 for the previous year, comprising 368 males, 275 females, and 197 children. The average percentage of bed cases for the year was :—adults 64·7 and children 30·5.

All types of the disease were admitted and though pulmonary cases predominated there was an increase of surgical cases as compared with previous years. For the satisfactory treatment of surgical cases it would be an advantage if provision were made for the taking of X-Rays and treatment by Artificial Sunlight at the Sanatorium itself.

The average length of stay of patients was :—surgical cases 173 days and pulmonary cases 113 days. The number of patients who spent 6 to 12 months in sanatorium was 93, as compared with 86 during the previous year.

The work of the Dental Surgeon continues to be of great advantage as an aid to treatment. Details regarding treatment given are shown on page oo.

*School Report.*—The school average attendance for the year was 32·4 as compared with 34·4 during the preceding year. The teaching staff remained the same and the arrangements for teaching continued as in other years, viz., infants, juniors and seniors.

During the good weather in the Summer the school work was taken out of doors, with beneficial results to the children.

The school garden is a source of pleasure besides being of educational and physical value. Dancing and singing are also of considerable value to the children as physical exercise.

Number admitted :—Girls 36, Boys 61, total 97.

Number of school sessions :—morning 236, afternoon 234, total 470.

Total number of attendances :—15,233. Average attendance :—32·4.

Average number on roll :—37·2.

### Killingbeck Sanatorium.

#### GRADE OF EXERCISE ATTAINED BY ADULT CASES.

	Males.	Females.	Total.
No exercise .. .. .	18	27	45
Walking .. .. .	14	48	62
Work { Grade A.* .. .. .	53	21	74
{ Grade B.† .. .. .	19	14	33
{ Grade C.‡ .. .. .	43	3	46
Treatment not completed .. ..	60	66	126
Total .. .. .	207	179	386

\* Light work in wards and garden, or vocational.

† Slightly heavier than "A."

‡ Moderately heavy work in wards and garden.

**Gateforth Sanatorium.**—The Medical Superintendent, Dr. H. E. Reburn, writes :—

The tables on page 123 show the number and classification of patients treated during the year.

Of the pulmonary cases 40 per cent. were T.B.+ as compared with 33·6 per cent. in 1928 and 17·7 per cent. in 1927.

A few non-pulmonary cases were admitted and derived benefit from a course of natural sunlight treatment. Owing to the absence of smoke this is easily obtained at Gateforth. It has proved beneficial in a few selected cases with pulmonary disease.

There is again an increase in the number of bed patients, the average being 11 a day as compared with 8 in 1928. This does not mean that the cases were more advanced but is due to the fact that all fresh cases, especially early ones, were kept in bed for several weeks at the commencement of their treatment. No doubt this is irksome to the patient who feels perfectly well and perhaps loses all his symptoms in a week or two but the results show that it is the best treatment and I am pleased to say that during this year patients have been much more amenable to it than in the past.

Following a period in bed, patients pass through a course of graduated rest and exercise and finally perform work of all grades in connection with gardening, poultry-farming, carpentry and painting.

*Artificial Pneumothorax.*—Six patients were treated by artificial pneumothorax. All were T.B.+ cases and had fairly extensive disease. Four made excellent recoveries and two improved. One of the latter had subacute disease affecting both lungs and artificial pneumothorax was done on both sides. The total number of refills given to these patients whilst here was 116.

*Sanocrysin.*—Five cases were treated with Sanocrysin. Three improved.

*The Sedimentation Test.*—This test consists in measuring the rate of sedimentation of the blood corpuscles. A number of these tests were carried out and the results were very helpful in diagnosis, prognosis and treatment.

*Handkerchiefs.*—Paper handkerchiefs are not used here now. Patients were continually losing them about the grounds and I consider them a danger. Following the example of other Sanatoria cotton handkerchiefs are supplied. When soiled they are dropped into a disinfectant solution and sterilised by boiling before they are washed. They are far more satisfactory than paper ones.

**Gateforth Sanatorium (Males only).**  
**PERIOD ENDED 31ST DECEMBER, 1929.**  
 (Ministry of Health Form T.54 (B) modified).

	Remaining Jan. 1st, 1929.	Admitted.	Dis- charged.	Died.	Remaining Dec. 31st, 1929.
Pulmonary ..	45	101	116	1	29
Non-Pulmonary ..	..	5	3	..	2
Observation Cases..	..	4	4	..	..
Totals .. ..	45	110	123	1	31

**ANALYSIS OF CASES DISCHARGED.**  
**DURATION OF RESIDENTIAL TREATMENT.**  
 (Ministry of Health Form T.55—modified).

PULMONARY T.B. DISEASE.							NON-PULMONARY T.B. DISEASES.			Total.	
	T.B. Minus.			T.B. Plus.			Quies- cent.	Im- proved.	Not Im- proved.		
	Quies- cent.	Im- proved.	Not Im- proved.	Quies- cent.	Im- proved.	Not Im- proved.					
Under 3 mths.	9	17	3	3	7	3	..	..	..	42	
3-6 months ..	16	6	1	5	11	5	2	1	..	47	
6-12 months..	11	3	..	6	5	1	..	..	..	26	
Over 12 mths.	3	..	..	1	..	..	..	..	..	4	
Total ..	39	26	4	15	23	9	2	1	..	119	
Observation and Negative Cases .. .. .											4
Grand Total .. .. .											123

**GRADE OF EXERCISE ATTAINED ON DISCHARGE BY QUIESCENT  
AND IMPROVED CASES.**

Cases who completed treatment. Grade.						Treatment not completed.	Total.
1	2	3	4	5	6		
4	9	5	16	6	44	22	106

NOTE.—Patients take walking exercise until 2 hours per day are done without symptoms. Six grades of manual work are then carried out, the last grade involving 6 hours normal work without any rest period.

*Staff.*—The Nursing staff has been increased by one and now consists of a Matron and three nurses, one of whom is on night-duty. As strict supervision is essential to efficient treatment the staff is rather small.

The health of the staff has been good. Nine were ex-patients of Sanatoria. One of these left during the year (not for health reasons) the other eight are still on the staff. None had any sick leave on account of tuberculosis.

*The Building.*—Very great improvements have been made during the year. The new dining room has been opened and is a splendid room. In the washing-up room adjoining are eight sinks at which patients wash their own dishes. All dishes are numbered so that patients keep to their own throughout their stay here.

The dining room is heated by a hot-water system which also heats the staff rooms immediately above. These rooms were very damp in winter time owing to condensation on the walls and the heating is a great improvement.

The large central heating installation in the main building has been extended so that all rooms are now heated.

Nearly the whole of the interior and all the exterior of the building has been painted.

*Electric Light.*—All the electric wiring of the Sanatorium has been renewed.

The engine which drives the dynamo has given a great deal of trouble and but for the timely help of Mr. Hepworth, the engineer of Seacroft Hospital, we should have been without light on more than one occasion. However, it is now definitely settled that the Yorkshire Electric Power Co. will supply us with current for light and power in 1930.

*Farm and Garden.*—About half (7 acres) of the park behind the Sanatorium has been taken over and is used for poultry.

During the year over 30,000 hen eggs were collected. Eggs are supplied to the Infants' Hospital, Wyther, and to "The Hollies" Sanatorium. The remainder were used at Gateforth or sold.

Ducks, Geese and Turkeys are kept and at Christmas turkeys were supplied to Wyther, "The Hollies" and the Day Nurseries. A number were used here and the remainder sold.

The cost of poultry food for the year was £213 and the value of eggs and birds used and sold was £334.

Produce from the garden valued at £80 was used in the Sanatorium.



**The Factory-in-the-Field.**—There has been no change in the type of work undertaken at the Factory during 1929, the employees being divided between the firewood, brush-making, and printing departments.

The employees in the various departments at the end of 1929 were grouped as follows :—

Department.		Tuberculosis.		Non-Tuberculosis.
Firewood	.. ..	22	..	4
Brushmaking	.. ..	4	..	1
Printing	.. ..	6	..	1
Other employees	.. ..	1	..	5
		—		—
		33		11
		==		==

Considerable alterations have been made in the premises during the year.

In the firewood department a platform for loading lorries was completed, certain re-arrangements of bundling benches and machinery were made, all of which have added to the efficiency of the department. The room set aside for firelighter making was completed and the necessary machinery installed but production had not commenced at the end of the year.

The brush-making section was extensively reorganised, and improvement of conditions, especially in the "pan" shop, have greatly added to the comfort and hygienic surroundings of the employees.

Apart from minor alterations and some new machinery the printing department was unchanged.

Other alterations which have added to the comfort and well-being of the employees were the provision of suitable cloakroom and lavatory accommodation and a canteen.

Meals have been served regularly in the canteen since the end of November, all tuberculous employees being required to attend there for their mid-day meal after which they rest until work is resumed. A good meal consisting of meat with two vegetables and a sweet is provided for each. This figure in practice has been found



just to meet the cost of food together with the cost of service, but overhead charges and fuel are not included. This mid-day meal has, on the whole, been greatly appreciated and is considered an important item in the scheme.

*Effects of work on Health.*—On the whole the health of the employees has been satisfactory considering the extent of disease from which many of them suffer.

In last year's report it was noted that some of the employees were bound to break down owing to slowly advancing disease and this has occurred. In only one case did it appear that work accelerated a breakdown, this being a young man who refrained from reporting adverse symptoms owing to his anxiety to support his home.

Most of the employees would be totally unfit to undertake any remunerative work in the open labour market, and although their occupation entails a loss to the municipality, that loss is much less than if they were totally unemployed.

The fact that these men are occupied on productive work under good conditions is an immense mental benefit to themselves, and although it is unlikely that in the majority of cases life will be prolonged, this opportunity of work is greatly appreciated.

It is remarkable how long some men with really advanced disease are able to continue at the occupations provided, and this capacity must be largely the result of the psychological stimulus which comes from finding that instead of being permanently useless they are able to contribute to their own maintenance as well as to the general productiveness of the community.

*Tuberculous Employees.*—During the year 50 patients with definite tuberculosis were employed for varying periods, and 33 remained at the end of the year. The remaining 17 ceased work for the following reasons:—three discharged as fit for work in the open labour market, four resigned at their own request, two were suspended owing to shortness of work, and eight had to give up owing to failure of health, of whom six were re-admitted to Sanatorium. Two of the last group died during the year.

*Loss of time through Ill-Health.*—As several of the employees whose health broke down had only worked for short periods it seems better to analyse the loss of time through ill-health amongst those employees who remained on the roll at the end of the year. Some of these men had been employed throughout the year, others for a few months only, the average being slightly over nine months. The loss of time in the several departments was as follows:—

Firewood Department—		Not Absent.		Absent.
Bundlers	.. ..	4	..	8 lost 417 days.
Labourers	.. ..	3	..	2 lost 71 days.
Travellers	.. ..	3	..	—
Others	.. ..	1	..	2 lost 39 days.
Brush Department	.. ..	2	..	2 lost 50 days.
Printing Department	.. ..	4	..	2 lost 70 days.

The average time lost in each department was:—Firewood 22·6 days, Brush-making 12·5 days, and Printing 11·7 days.

**Care Work.**—The Care Committee has had a very busy year and the number of cases dealt with shows a considerable increase on the previous year.

Tuberculosis more than any other disease brings poverty and hardship to the home, and opportunities of giving much needed help are as numerous as the cases themselves. Every case which received assistance is fully investigated by the Secretary and discussed in Committee. Close co-operation is maintained with all other official and charitable bodies, and whenever assistance can be obtained from these sources it is arranged through them.

Welfare workers in business houses and factories have co-operated actively with the Committee and there has been a very gratifying increase in the financial support from outside sources which has allowed of wider measures of assistance to many needy cases. It is a pleasure once more to express deep appreciation of the services of the voluntary workers who meet every week in the Case Committee and whose activities are of such assistance in solving the varied needs of patients and their families.

The following extract from the annual report of the Committee is a brief summary of their work :—

“ During the past year between four and five hundred more cases have been dealt with than during the previous year. This does not necessarily mean that Consumption is increasing but only that more cases have been dealt with.

“ There is a great demand for warm clothing and during the year 115 persons were given clothing of various kinds.

“ 631 patients were given extra nourishment in the form of milk and eggs. The nourishment grant is financed by the Ministry but is administered by the Care Committee.

“ Surgical appliances, splints and crutches, etc., are a very expensive item and where recommended by the Doctors are supplied through the Care Committee ; 40 were supplied last year. The cost is borne by the Local Authority and patients are asked to subscribe where their means permit.

“ In cases where one or both parents have to go away for treatment assistance is often required with the domestic arrangements. Nine families have been helped in this way.

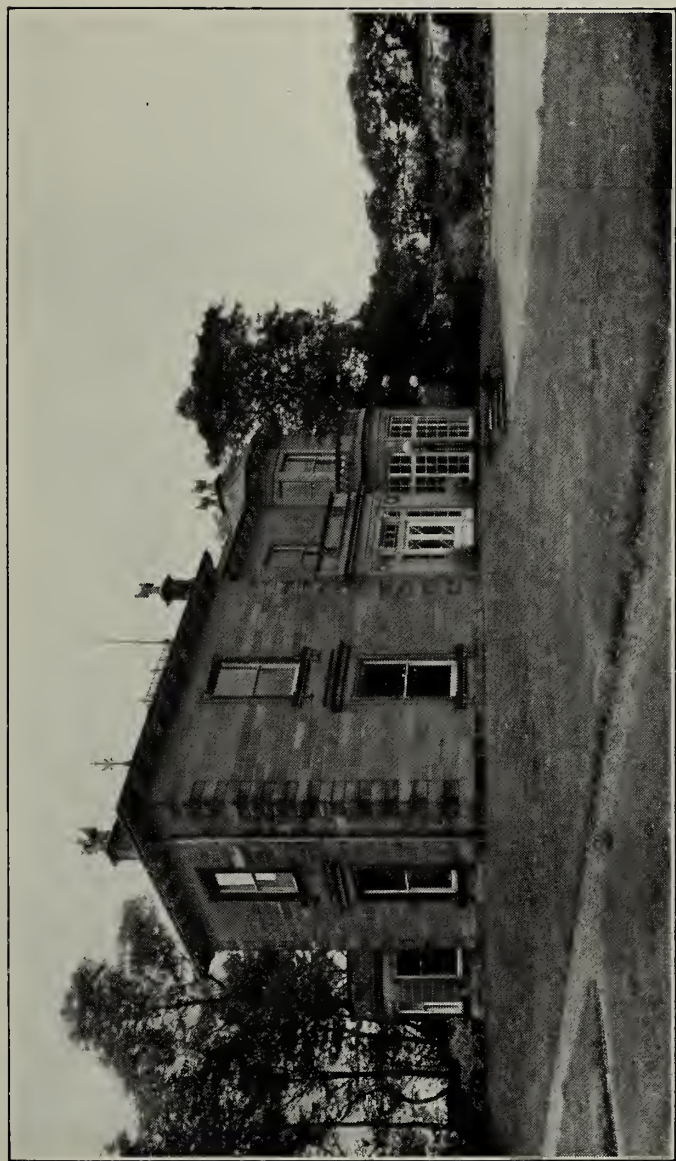
“ In 13 cases homes were found either in Institutions or with foster-mothers for children whose parents had to undergo treatment which necessitated absence from home.

“ Convalescence for prevention as well as for treatment is a very important part of the work and 109 people were sent to seaside or country homes at Scarborough, Bridlington, Ilkley and Cookridge on medical recommendations. The gain after convalescence was most marked and in several cases the patient was enabled to return to his own trade. The cost of convalescence is shared where possible by the patients and their families, but where this is impossible it is borne by the Care Committee with whatever help can be obtained from other sources. On medical advice the normal period of three weeks is extended and sometimes the patient is away for two months or more.

“ Where there is a risk of infection at home, separate sleeping accommodation is provided and during the year 27 beds and bedding were granted to families in need.

“ The following shows the number of cases helped during the year :—  
Food, 631 ; Home help, 9 ; Homes found, 13 ; Convalescence, 109 ; Clothing, 115 ; Beds and bedding, 27 ; Dentures, 47 ; Sick-room requisites 22 ; Surgical appliances, 40 ; Money grants, 38 ; Help *re* employment, 7 ; Letters to Societies, directing and advising, 967.

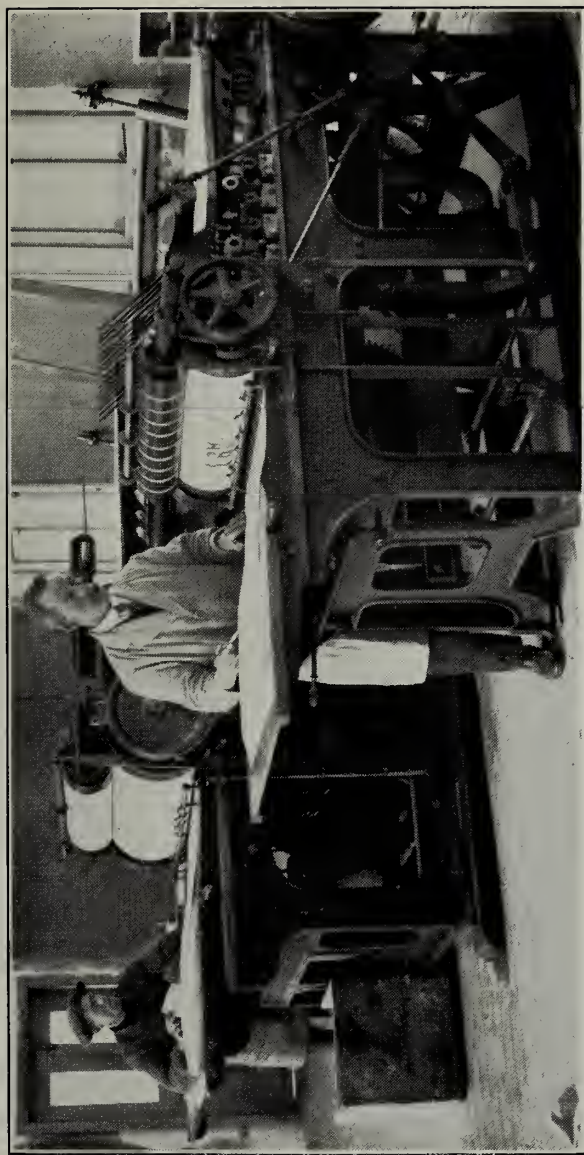
“ During the year the Committee have met weekly and at Christmas the usual gift of a Christmas parcel of groceries was distributed to 350 families ; 50 of these were given by the *Yorkshire Post* and 18 by an anonymous donor. For all of these the Committee is most grateful.



A GENERAL VIEW OF THE FACTORY-IN-THE-FIELD.







FACTORY-IN-THE-FIELD PRINTING DEPARTMENT.

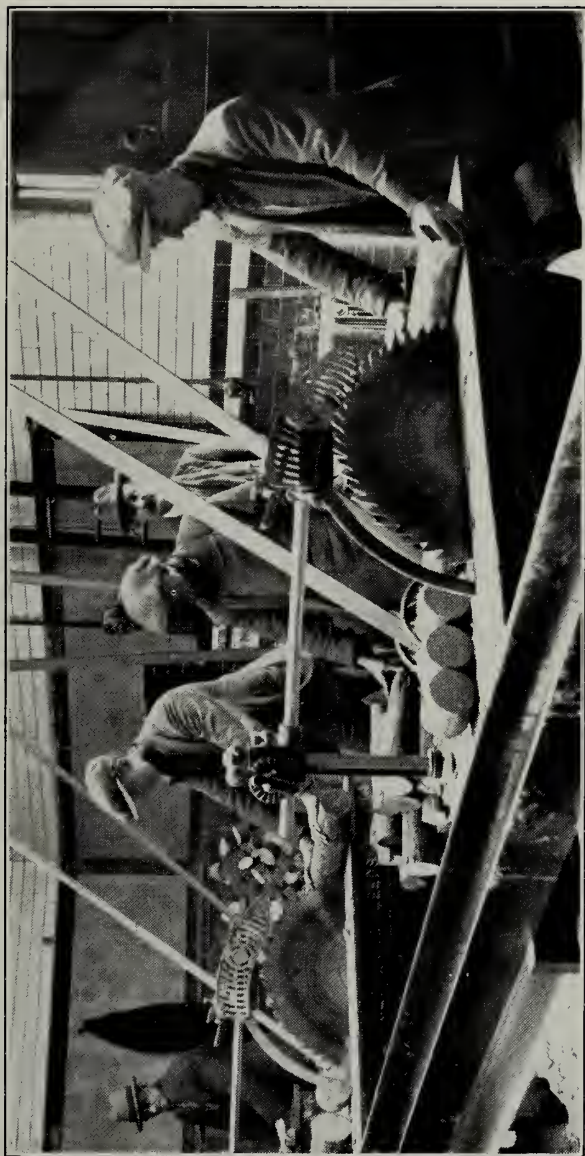






FACTORY-IN-THE-FIELD BRUSH-MAKING DEPARTMENT.





FACTORY-IN-THE-FIELD FIREWOOD DEPARTMENT.





FACTORY-IN-THE-FIELD FIREWOOD DEPARTMENT.





## Maternity and Child Welfare.

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Notwithstanding the favourable climatic conditions which prevailed throughout practically the whole of the year it is disappointing to have to record an increase in the infantile mortality rate. The cause of the increase was undoubtedly the prevalence of influenza and other respiratory infections in the early part of the year. This is referred to again in succeeding paragraphs so I need say no more about it at this stage. Suffice it to remind the reader that the cause was beyond the control of the Public Health Authority and is no reflection upon the manner in which the work of the maternity and child welfare staff was carried on. The scheme as a whole has continued to operate as in past years, smoothly, efficiently, and with general acceptance to all who participate in its benefits. Its scope continues to widen and is likely to be still further enlarged in the coming year by the transference of the administrative duties under the Children Act, 1908 to the local Health Authority.

It has been an anxious year for all concerned and great credit is due to the Senior Officer in charge of Maternity and Child Welfare and her staff, as well as to the members of the Babies' Welcome Association and other voluntary helpers for the splendid services they have rendered.

**Statistics.**—The number of children under one year of age who died during 1929 was 722 (males 445 and females 277) as compared with 606 (males 382 and females 224) for 1928. The infant mortality rate was 97 as compared with 79 for the previous year. This is the highest rate recorded in the city since 1924 when the rate was 108. The rate for 1929 remains the same as the average of the previous decade but represents an increase of 6.6 per cent. over the average of the previous five years.

Compared with the other large towns in England and Wales, Leeds occupied tenth place, the only towns with higher rates being Manchester, Hull and Stoke-on-Trent. It should be noted however that the rate in all the large towns was higher in 1929 than in the

previous year, so that the conditions underlying the high mortality in Leeds might be said to have been general. This is borne out by the infant mortality rate for England and Wales which increased from 65 in 1928 to 74 in 1929. Even so the rate for England and Wales was 23·7 per cent. lower than that for Leeds. Last year it was 17·7 per cent. lower.

*Causes of Infant Death.*—The principal causes contributing to the infant death-rate in order of numerical importance were premature birth (173), pneumonia (150), diarrhoea and enteritis (71), atrophy, debility and marasmus (44), congenital malformations (37), whooping cough (34), convulsions (31), and bronchitis (26). As compared with the previous year the principal increases to be recorded were pneumonia (70), whooping cough (15), measles (13) and bronchitis (12).

The group of diseases responsible for most of the deaths was that which effects the respiratory system. The total number of deaths attributable to diseases of the lung and respiratory tract, including influenza and whooping cough, was 218, or 30·2 per cent. of the total deaths of children under one year, as compared with 118, or 19·5 per cent., for the previous year. This is the highest number of deaths from this group of diseases recorded in Leeds since 1924, when there were 338 deaths, or 36·7 per cent. of the total deaths of infants under one. The period of the year with the highest infant death-rate was the first quarter, from which it will be gathered that the influenza epidemic, already alluded to in various parts of this report, which raged throughout the country at that time, was an important contributory factor.

Further reference to this is made on page 131.

Once again prematurity was the most important single cause of death during the year. No fewer than 173, or 24·0 per cent. of the total deaths under one year being attributed to it. The corresponding figures for the previous year were 169, or 27·9 per cent. of the total deaths. Although as compared with the previous year the percentage of the total deaths decreased in 1929 the number of deaths increased by four. The percentage decrease is accounted for by the fact that the number of deaths of children under one increased from 606 in 1928 to 722 in 1929. To show how important a place prematurity takes as a cause of death, it may be pointed out that in spite of the decline in the number of births taking place

in the city, the number of deaths from prematurity is increasing. To illustrate this point further, it may be mentioned that as compared with 173 deaths in 1929, the average number of deaths in the previous quinquennium was 151 and the average of the previous decade, 175.

Pneumonia (all forms) was the second most important single cause of death. There were 150 deaths, or 20.8 per cent. of the total deaths under one year, from this disease, as compared with 80, or 13.2 per cent., for the previous year. This is the greatest number of deaths recorded in the city from pneumonia in children under one year since 1924 when there were 183 deaths. Of the 150 deaths, 75, or 50.0 per cent., occurred in the first quarter of the year when there was an extensive epidemic of influenza, allusion to which has already been made.

The third important cause of death in children under one year was diarrhoea and enteritis. In this case it is a pleasure to have to report that the number of deaths from this cause declined from 89 in 1928 to 71 in 1929. This is rather surprising in view of the fact that we had a warm summer and that the rainfall was below the average.

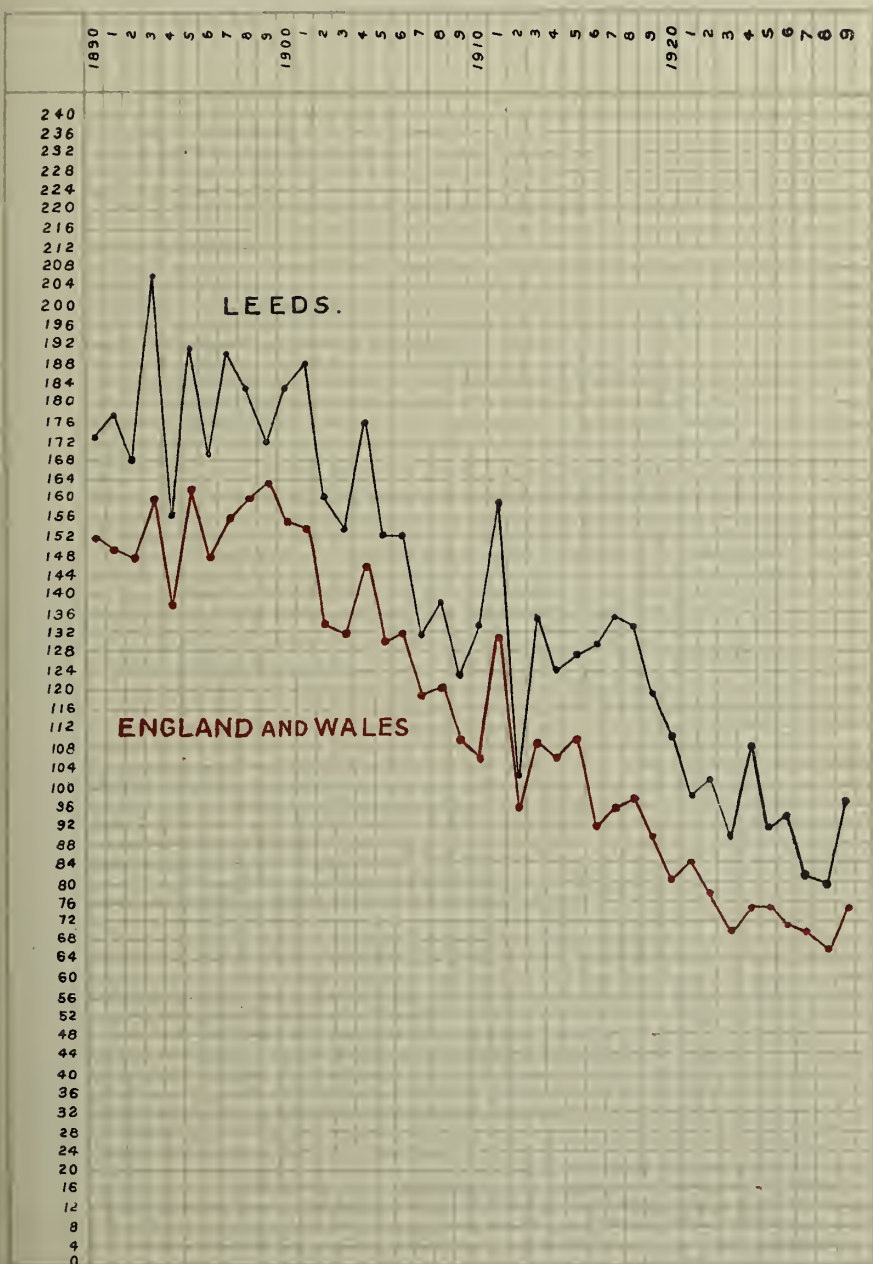
*Death-rate in Quarters.*—The infant mortality rate for the four quarters of the year is given in the accompanying table.

	I.	II.	III.	IV.	Year.
1919 .. ..	173	102	123	96	119
1920 .. ..	139	95	88	112	110
1921 .. ..	108	78	101	108	98
1922 . . .	119	106	77	101	101
1923 .. ..	114	74	86	82	89
1924 .. ..	171	83	68	109	108
1925 .. .	84	62	100	126	91
1926 .. ..	120	78	75	100	93
1927 .. ..	104	70	66	83	81
1928 .. ..	84	60	77	99	79
1929 .. ..	142	84	79	84	97

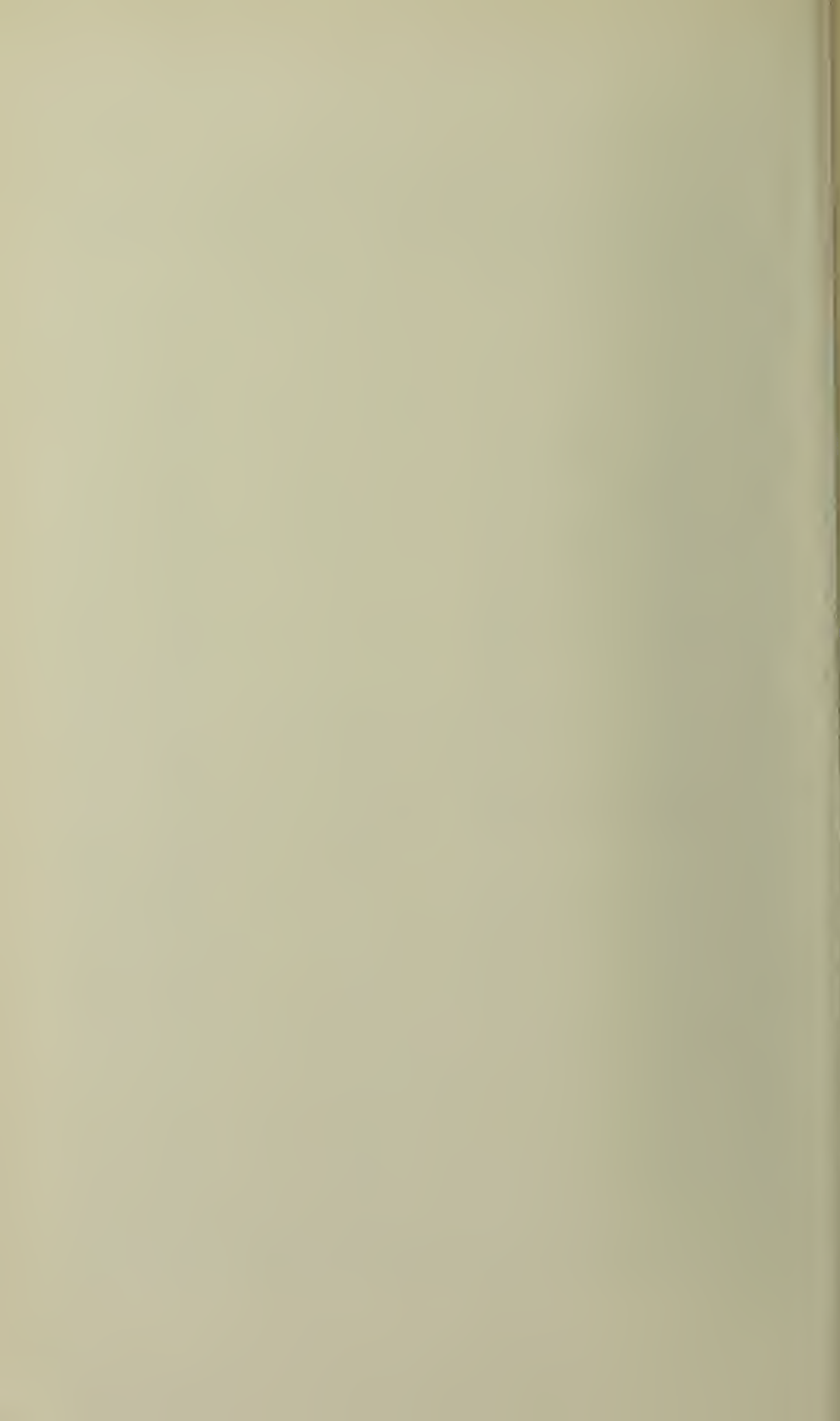
## INFANT MORTALITY.

Year.	Deaths under one year.	RATE PER 1,000 BIRTHS.	
		LEEDS.	England and Wales.
1890	2,128	173	151
1891	2,216	177	149
1892	2,114	168	148
1893	2,542	206	159
1894	1,945	156	137
1895	2,384	191	161
1896	2,120	169	148
1897	2,454	190	156
1898	2,372	183	160
1899	2,222	172	163
1900	2,397	183	154
1901	2,429	188	151
1902	2,113	160	133
1903	1,992	153	132
1904	2,207	176	145
1905	1,875	152	128
1906	1,837	152	132
1907	1,533	131	118
1908	1,654	138	120
1909	1,350	123	109
1910	1,446	133	105
1911	1,679	159	130
1912	1,051	102	95
1913	1,469	135	108
1914	1,324	124	105
1915	1,253	127	110
1916	1,216	129	91
1917	1,023	135	96
1918	984	133	97
1919	899	119	89
1920	1,232	110	80
1921	997	98	83
1922	935	101	77
1923	773	89	69
1924	921	108	75
1925	748	91	75
1926	748	93	70
1927	629	81	70
1928	606	79	65
1929	722	97	74

# INFANT MORTALITY PER 1000 BIRTHS, 1890 - 1929.







INFANTILE MORTALITY DURING THE ELEVEN YEARS 1919-1929 AT DIFFERENT PERIODS OF  
THE FIRST YEAR OF LIFE.

YEAR.	Births in year.	Under one week.		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under twelve months.		Under one year.		
		Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	
1919	..	7,564	230	30.4	373	49.3	147	19.4	156	20.6	125	16.5	98	13.0	899	119
1920	..	11,229	304	27.1	520	46.3	260	23.2	191	17.0	146	13.0	115	10.2	1,232	110
1921	..	10,144	249	24.5	419	41.3	184	18.1	180	17.7	116	11.4	98	9.7	997	98
1922	..	9,253	206	22.2	401	43.3	159	17.2	125	13.5	127	13.7	123	13.3	935	101
1923	..	8,684	204	23.5	363	41.8	110	12.7	125	14.4	92	10.6	83	9.6	773	89
1924	..	8,558	185	21.6	331	38.7	156	18.2	155	18.1	150	17.5	129	15.1	921	108
1925	..	8,180	184	22.5	309	37.8	141	17.2	119	14.5	88	10.8	91	11.1	748	91
1926	..	8,065	187	23.2	312	38.7	134	16.6	118	14.6	96	11.9	88	10.9	748	93
1927	..	7,790	170	21.8	274	35.2	103	13.2	87	11.2	84	10.8	81	10.4	629	81
1928	..	7,665	201	26.2	286	37.3	102	13.3	94	12.3	72	9.4	52	6.8	606	79
1929	..	7,426	210	28.3	314	42.3	111	14.9	107	14.4	108	14.5	82	11.0	722	97

The quarter with the highest death-rate was the first and that with the lowest, the third.

As indicated in an earlier paragraph the cause of the high death-rate in the first quarter was the abnormal prevalence of influenza and respiratory diseases. Not since 1924 has the rate in the first quarter been so high and there are few occasions in the whole period since the Notification of Births Act was adopted in 1914 that the record has been exceeded. Though a weekly infant mortality rate is not a dependable statistical entity as a matter of interest it may be mentioned that there were three weeks in this quarter, namely, February 16th, February 23rd and March 2nd, which will always be memorable because of the abnormally large number of infant lives which were lost. In the first of the three weeks the infant death-rate was 220; in the second, 304; and in the third, 213; and it was not until the beginning of April that the figure returned to anything like normal proportions.

*Deaths in Age Groups.*—Of the total (722) infant deaths, 210, or 29.1 per cent. took place in the first week of life; 314, or 43.5 per cent. in the first month; 111, or 15.4 per cent. between one and three months; 107, or 14.8 per cent. between three and six months; 108, or 15.0 per cent. between six and nine months; and 82, or 11.4 per cent. between nine and twelve months. All these figures are a definite increase on the corresponding figures for the previous year and are due as already pointed out to the unhealthy conditions prevailing in the first quarter of the year.

The percentage changes in the infant death-rate per 1,000 births in 1929 as compared with the average of the previous ten years are as follows:—

Under 1 week, increase	16.5%	3-6 months, decrease ..	7.1%
Under 1 month „	2.7%	6-9 „ increase ..	15.1%
1-3 months decrease	13.4%	9-12 „ „ ..	- + %
Whole year decrease, - + %			

It is interesting to note the changes which have taken place at the various age periods of infancy since the quinquennium 1905-1909. These are set out in the table on page 138. The quinquennial average has been taken in order to make a better comparison.

*Neo-natal Death-rate.*—The number of deaths of infants occurring in the first month of life was 314, or 28 more than for the previous year, and the corresponding rate was 42·3. This is the highest neo-natal rate recorded in Leeds since 1922 when it was 43·3.

Of the total deaths under one year, 43·5 per cent. occurred in the first month of life as compared with 47·2 per cent. for the previous year, and of the deaths in the first month, 66·9 per cent. occurred in the first week and 83·4 per cent. in the first two weeks.

On referring to the table on page 133 it will be noted that in 1929 the death-rate of children under one week (28·3) was the highest recorded in Leeds since 1919 when the rate was 30·4.

*Illegitimate Death-rate.*—Of the 410 illegitimate births 86, or 21·0 per cent., died before reaching the age of one year which is equal to an infantile death-rate of 210. This is an increase of 36 per thousand as compared with the rate for 1928, and an increase of 56 as compared with 1927.

That the illegitimate death-rate still remains so high is a matter greatly to be regretted especially when taken in conjunction with the death-rate of unmarried mothers. The death-rate of unmarried mothers per thousand illegitimate births for the year was 9·8 as compared with a rate of 4·1 for married mothers.

**Maternal Mortality.**—The number of mothers who lost their lives in childbirth during the year was 33, a decrease of three over the figure for 1928. The maternal mortality rate was 4·44 as compared with 4·70 for the preceding year. As mentioned above the rate of death of unmarried mothers was 9·8, or more than double that of married mothers. Had the rate of death of unmarried mothers remained at or about the same as married mothers it would have reduced the total rate very considerably, an indication that greater efforts should be made to protect the unmarried mother from the many dangerous influences which surround her before, during and after childbirth.

Further reference is made to this subject on page 150.

INFANTILE MORTALITY IN WARDS AT DIFFERENT PERIODS OF THE FIRST YEAR OF LIFE,  
CALENDAR YEAR, 1929.

WARD.	Births in year.	Under one week.		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under twelve months.		Under one year.	
		Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.	Deaths.	Rate.
Central ..	162	4	24.7	5	30.9	2	12.3	3	18.5	5	30.9	3	18.5	18	111
North ..	651	21	32.3	32	49.2	5	7.7	12	18.4	10	15.4	10	15.4	69	106
North-East ..	623	12	19.3	19	30.5	7	11.2	5	8.3	15	24.1	5	8.3	51	82
* New Ward ..	286	3	10.5	10	35.0	4	14.0	2	7.0	2	7.0	..	..	18	63
East ..	772	20	25.9	28	36.3	17	22.0	13	16.8	13	16.8	11	14.2	82	106
South ..	259	8	30.9	12	46.3	7	27.0	5	19.3	5	19.3	4	15.4	33	127
East Hunslet ..	683	22	32.2	31	45.4	8	11.7	13	19.0	11	16.1	12	17.6	75	110
West Hunslet ..	496	13	26.2	18	36.3	10	20.2	7	14.1	9	18.1	5	10.1	49	99
Holbeck ..	465	17	36.6	25	53.8	14	30.1	2	4.3	3	6.5	4	8.6	48	103
Mill Hill ..	75	2	26.7	3	40.0	..	..	2	26.7	2	26.7	1	13.3	8	107
West ..	408	14	34.3	21	51.5	8	19.6	9	22.1	10	24.5	6	14.7	54	132
North-West ..	421	12	28.5	14	33.3	6	14.3	8	19.0	3	7.1	4	9.5	35	83
Brunswick ..	341	14	41.1	14	41.1	5	14.7	5	14.7	4	11.7	2	5.9	30	88
New Wortley ..	300	8	26.7	13	43.3	7	23.3	4	13.3	4	13.3	2	6.7	30	100
Armley & Wortley ..	489	5	10.2	14	28.6	5	10.2	3	6.1	4	8.2	2	4.1	28	57
Bramley ..	281	9	32.0	17	60.5	1	3.6	4	14.2	5	17.8	2	7.1	29	103
Headingley ..	714	26	36.4	38	53.2	5	7.0	10	14.0	3	4.2	9	12.6	65	91
CITY ..	7,426	210	28.3	314	42.3	111	14.9	107	14.4	108	14.5	82	11.0	722	97

\* Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.

BIRTHS AND DEATHS UNDER ONE YEAR WITH RATES.—CALENDAR YEAR 1929.

WARD.	Total Births (net).	Birthrate per 1,000 population.	No. of legitimate births.	No. of illegitimate births.	Total deaths under one year (net).	Death rate per 1,000 births.	No. of legitimate deaths under one year.	Legitimate death rate per 1,000 legitimate births.	No. of illegitimate deaths under one year.	Illegitimate death rate per 1,000 illegitimate births.
Central ..	162	12.82	149	13	18	111	16	107	2	154
North ..	651	14.70	623	28	69	106	63	101	6	214
North-East ..	623	16.99	589	34	51	82	43	73	8	235
*New Ward ..	286	20.71	279	7	18	63	17	61	1	143
East ..	772	21.38	748	24	82	106	75	100	7	292
South ..	259	20.00	230	29	33	127	25	109	8	276
East Hunslet ..	683	17.99	655	28	75	110	65	99	10	357
West Hunslet ..	496	13.61	467	29	49	99	47	101	2	69
Holbeck ..	465	15.66	438	27	48	103	44	100	4	148
Mill Hill ..	75	14.22	69	6	8	107	8	116	..	..
West ..	408	18.48	368	40	54	132	42	114	12	300
North-West ..	421	13.28	383	38	35	83	31	81	4	105
Brunswick ..	341	14.20	313	28	30	88	25	80	5	179
New Wortley ..	300	16.66	286	14	30	100	26	91	4	286
Armley & Wortley ..	489	13.04	468	21	28	57	26	56	2	95
Bramley ..	281	11.38	266	15	29	103	24	90	5	333
Headingley ..	714	13.06	685	29	65	91	59	86	6	207
CITY ..	7,426	15.52	7,016	410	722	97	636	91	86	210

\* Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.



PERCENTAGE CHANGES (5 YEAR PERIODS, ALSO YEARS 1925, 1926, 1927, 1928 AND 1929) IN THE INFANT DEATH-RATE per 1,000 BIRTHS AS COMPARED WITH THE AVERAGE OF THE FIVE YEARS 1905-1909.

Five year period.	Under one week		Under one month.		One and under three months.		Three and under six months.		Six and under nine months.		Nine and under 12 months.		Under one year.	
	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.	Rate.	Percentage increase or decrease over 5 years period 1905-1909.
1905-1909	26.2	—	44.3	—	25.5	—	28.0	—	23.0	—	18.6	—	139	—
1910-1914	26.6	+1.5%	44.1	-0.5%	24.7	-3.1%	23.9	-14.6%	20.1	-12.6%	18.0	-3.2%	131	-5.8%
1915-1919	26.4	+0.8%	44.4	+0.2%	21.5	-15.7%	25.0	-10.7%	19.7	-14.3%	17.9	-3.8%	129	-7.2%
1920-1924	23.8	-9.2%	42.3	-4.5%	17.9	-29.8%	16.1	-42.5%	13.2	-42.6%	11.6	-37.6%	101	-27.3%
Year 1925	22.5	-14.1%	37.8	-14.7%	17.2	-32.5%	14.5	-48.2%	10.8	-53.0%	11.1	-40.3%	91	-34.5%
Year 1926	23.2	-11.5%	38.7	-12.6%	16.6	-34.9%	14.6	-47.9%	11.9	-48.3%	10.9	-41.4%	93	-33.1%
Year 1927	21.8	-16.8%	35.2	-20.5%	13.2	-48.2%	11.2	-60.0%	10.8	-53.0%	10.4	-44.1%	81	-41.7%
Year 1928	26.2	—	37.3	-15.8%	13.3	-47.8%	12.3	-56.1%	9.4	-59.1%	6.8	-63.4%	79	-43.2%
Year 1929	28.3	+8.0%	42.3	-4.5%	14.9	-41.6%	14.4	-48.6%	14.5	-37.0%	11.0	-40.9%	97	-30.2%

## DEATHS FROM STATED CAUSES UNDER ONE YEAR OF AGE.

Causes of death.	Year 1928.	Year 1929.	Increase or decrease.	Percentage of total deaths under one.
Smallpox .. ..	..	..	..	..
Chickenpox .. ..	..	3	+ 3	0.4
Measles .. ..	3	16	+13	2.2
Scarlet Fever .. ..	2	1	- 1	0.1
Whooping Cough .. ..	19	34	+15	4.7
Diphtheria .. ..	1	2	+ 1	0.3
Influenza .. ..	5	7	+ 2	1.0
Erysipelas .. ..	..	..	..	..
Tuberculous Diseases .. ..	11	10	- 1	1.4
Meningitis .. ..	5	5	- +	0.7
Convulsions .. ..	27	31	+ 4	4.3
Bronchitis .. ..	14	26	+12	3.6
Pneumonia (all forms) .. ..	80	150	+70	20.8
Other diseases of Respiratory Organs .. ..	..	1	+ 1	0.1
Diarrhoea and Enteritis .. ..	89	71	-18	9.8
Gastritis .. ..	2	1	- 1	0.1
Syphilis .. ..	8	9	+ 1	1.2
Rickets .. ..	..	1	+ 1	0.1
Suffocation, including overlying .. ..	16	21	+ 5	2.9
Injury at birth .. ..	11	18	+ 7	2.5
Atelectasis .. ..	16	19	+ 3	2.6
Congenital Malformations .. ..	28	37	+ 9	5.1
Premature birth .. ..	169	173	+ 4	24.0
Atrophy, Debility, and Marasmus .. ..	52	44	- 8	6.1
Other Causes .. ..	48	42	- 6	5.8
Totals .. ..	606	722	+116	100

# MATERNITY AND CHILD WELFARE SERVICES INCLUDING SUPERVISION OF MIDWIVES,

BY

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**Number of Midwives.**—The number of midwives on the register at December 31st, 1928, was 108; 23 new names were added during the year, 13 ceased to practise, 18 resigned and their names were removed from the register leaving a total on the register at December 31st, 1929, of 100. Of the total, 53 were attached to institutions. The actual number who practised in the area during the year was 91, of whom 84 (or 92·3 per cent.) were trained and seven (or 7·7 per cent.) untrained. The number of births attended by midwives was 3,009, or 39·0 per cent. of the total births registered.

The following table gives an analysis of the cases attended by midwives:—

TRAINED.			UNTRAINED.		
84 midwives.			7 midwives.		
Total cases attended .. 2,897			Total cases attended .. 112		
Average per midwife 34 cases.			Average per midwife 16 cases.		
No. of Cases.	Practising on their own account.	Attached to institutions.	No. of Cases.	Practising on their own account.	
Over 200	1	..	Over 200	..	
„ 150	..	2	„ 150	..	
„ 100	4	2	„ 100	..	
„ 75	4	2	„ 75	..	
„ 50	4	3	„ 50	1	
„ 25	5	3	„ 25	..	
„ 10	9	4	„ 10	1	
„ 5	8	6	„ 5	4	
Under 5	13	14	Under 5	1	

Twenty-seven trained midwives (17 attached to institutions) took no cases during the year.

**Inspection of Midwives.**—The inspection of midwives' bags, books and appliances was carried out regularly during the year, the total number of such inspections made being 211. In addition to these inspections, the inspector of midwives paid 99 other visits. Fifty-eight midwives were interviewed in connection with breaches

of the rules of the Central Midwives Board and other minor misdemeanours. Sixteen midwives were reported to the Senior Medical Officer for Maternity and Child Welfare, and sixteen were interviewed by her. Two were summoned to appear before the Health Committee and were sent up to the Central Midwives Board for trial. In both cases sentence was postponed for a year pending the submission of quarterly reports by the local supervising authority on the conduct and method of practice of these midwives. There were also 31 investigations into complaints respecting the conduct of midwives.

*Advising Medical Help.*—Notifications of having advised medical assistance were received in 990 cases, which may be classified as follows :—

Illness during pregnancy, or abortion .. .. .	48
Malpresentation .. .. .	49
Delayed or obstructed labour .. .. .	170
Ruptured perineum.. .. .	189
Retained membrane or placenta .. .. .	25
Hæmorrhage .. .. .	49
Convulsions, eclampsia .. .. .	6
Puerperal rise of temperature .. .. .	50
Illness of mother during puerperium .. .. .	47
Illness of child .. .. .	152
Infants—discharging eyes .. .. .	69
Artificial feeding .. .. .	27
Death of infant under ten days .. .. .	27
Still-births .. .. .	63
Suspected infectious disease .. .. .	19
Maternal deaths .. .. .	—

*Midwives' Emergencies.*—During the year 533 claims were made by medical practitioners in the city for attendance on emergencies of labour under Section 14 of the Midwives Act, 1918. Of these eight were paid direct by the parent, whilst the remainder, 525, were met in whole or in part by the Local Authority at a total nett cost of £526 9s. 11d.

*Accouchement Sets.*—During the year 263 accouchement sets were sold to the mothers through the Welcomes, midwives and maternity homes.

*Puerperal Fever Cases.*—Thirty-one cases of puerperal fever were notified during 1929, of these 25 recovered and six died. There were 66 cases of puerperal pyrexia notified and of those seven died.

All cases of puerperal rises of temperature were investigated by the Inspector of Midwives and a total of 206 visits were made by her for this purpose. Arrangements were made for the district nurses to take over the nursing of 15 cases, of which four were puerperal fever and 11 puerperal pyrexia. This was done where the patients were not removed to the City Isolation Hospital or other institution. The midwife could then be taken off the case, have her person, clothing and bag disinfected, in this way preventing the spread of infection and securing the midwife against loss of practice. Twenty midwives were disinfected after contact with cases of puerperal fever and 18 in connection with puerperal pyrexia (*vide* page 46).

*Ophthalmia Neonatorum.*—There were 38 cases of ophthalmia neonatorum notified during the year. Cases occurring in the practices of midwives were either transferred to hospital or handed over to the district nurses for treatment, the midwives continuing to attend the mothers. A health visitor called periodically at the home to watch the progress of the disease in each case and see that everything possible was being done. Twenty-seven cases were treated at home and 11 in institutions. As a result of treatment 35 cases apparently made a perfect recovery, two cases left the district of which the result is not known, and one died (*vide* page 48).

*Pemphigus Neonatorum.*—All cases of infants who were reported by the midwives to be suffering from blebs or blisters were investigated and if the case was found to be one of pemphigus, the district nurses were asked to take over the nursing. The midwife then ceased her attendance on the patient and her person, instruments and bag were disinfected under the personal supervision of the Inspector of Midwives. There were 26 cases brought to the notice of the Department during the year, 23 of which occurred in the practice of midwives and all recovered; two were doctors' cases, one of whom died; one which occurred in an institution also died. There was no serious outbreak in the practice of midwives, one midwife had a group of four cases and the others were isolated cases or appeared in groups of two.

*Employment of, or subsidy to, practising midwives, by the Local Authority.*—There were no midwives actually employed by the Health Department, nor was any subsidy given to any practising midwife in the area during the year. However, the arrangement made between the Corporation and the Maternity Hospital, whereby provision is made for the maintenance of district midwives in five districts of the city remained in operation. Each branch is staffed by one midwife (paid) and two pupils (unpaid). Only two of the five midwives conducted over 120 cases and were entitled to the bonus on each case over that number. The total number of cases dealt with by the Branch midwives was 530, the largest number, viz., 199 being at the Burmantofts Branch and the smallest, viz., 71 at the West Street Branch. The deficit in all the Branches for the year was £433 16s. 9d. which is borne by the Corporation under the arrangement already referred to.

*Compensation to Midwives for loss of work.*—A midwife can claim compensation for any cases lost because of her having been in contact with an infectious case. The number of such claims made during the year was six, (three midwives) and the cost to the Corporation was £8 7s. 0d. She can also claim for the loss of a case which she has sent to an ante-natal Clinic, and which, owing to some abnormality, has had to be sent into hospital for confinement. The number of these claims was 26 and the cost to the Corporation was £26 2s.

*Revision Course.*—No post-certificate course was held during 1929. Arrangements continued to be made for midwives to attend the ante-natal Clinics to receive instruction in ante-natal work and the keeping of ante-natal records. It is hoped that midwives will come to realise how very important this branch of their work is, and carry it out in a much more satisfactory manner than they have done in the past.

*Handywomen.*—During the year 26 handywomen were seen and warned as to limitations of practice, etc.; 19 were visited in connection with cases of puerperal fever and other infections; 13 were disinfected after puerperal fever, and three were interviewed by the Senior Medical Officer for Maternity and Child Welfare.

*Stillbirths.*—The number of stillbirths does not vary very much from year to year. The number notified during 1929 was



382 or 5.0 per cent. of the total births notified, which is very little different from the figure for last year which was 388 or 4.9 per cent.

The following table shows the comparison between live births and stillbirths for the last eleven years :—

#### BIRTHS NOTIFIED (LIVE AND STILL).

Year.	Live births notified.	Stillbirths notified.	Total births notified live and still.	Percentage of stillbirths to total births.
1919	7,684	340	8,024	4.2
1920	10,749	461	11,210	4.1
1921	9,462	466	9,928	4.7
1922	8,658	418	9,076	4.6
1923	8,264	379	8,643	4.4
1924	8,105	348	8,453	4.1
1925	8,034	334	8,368	4.0
1926	7,828	380	8,208	4.6
1927	7,582	367	7,949	4.6
1928	7,497	388	7,885	4.9
1929	7,210	382	7,592	5.0

Notification of Births Act came into force in Leeds 1st January, 1914

Of the 382 stillbirths notified, 63 or 16.5 per cent. were by midwives, and 319, or 83.5 per cent., by medical practitioners. Each stillbirth is investigated and the mother is visited again in six months time. If she is found to be again pregnant she is urged to attend her own doctor or the ante-natal clinic for ante-natal supervision. Mothers who give a history of previous miscarriages or stillbirths, are asked to attend their own doctor or an ante-natal clinic, as soon as they are able, for special investigation.

As in the previous years investigations were carried out in the 341 stillbirths, with regard to the number of children in the family in which they occurred, and much the same results were obtained. It was found that the majority occurred in childless and one-child families, the percentage being 54.0; in families of two children 9.1 per cent.; of three children 9.7 per cent.; of four children

6.7 per cent. ; of 5 children 5.9 per cent. ; of 6 children 4.1 per cent. ; of seven children 2.9 per cent. ; of eight children 1.5 per cent. ; of nine children 3.5 per cent. and of still larger families under one per cent. The largest number, 37.8 per cent., occurred in primiparas and may be partly explained by the fact that the first labour is generally the most difficult and most liable to require interference.

An investigation was also carried out with regard to the comparison of stillbirths to live-births in the different sizes of family.

The following table gives the details :—

No. in family.				No. of stillbirths.	No. of live-births.	Percentage of stillbirths to total births.
No children	..			129	2,632	4.7
1 child	..	..		55	1,771	3.0
2 children	..	..		31	1,062	2.8
3	..	..	..	33	653	4.8
4	..	..	..	23	446	4.9
5	..	..	..	20	289	6.5
6	..	..	..	14	212	6.2
7	..	..	..	10	127	7.3
8	..	..	..	5	90	5.3
9	..	..	..	12	58	17.1
10	..	..	..	3	41	6.8
11	..	..	..	2	20	9.1
12	..	..	..	2	9	18.2
13	..	..	..	2	6	25.0

The percentage of stillbirths to total births was greater in families with five and over five children.

**Ante-Natal Work.**—At 14 of the clinics one session, and at one clinic two sessions were set aside for expectant mothers only. The ante-natal clinic at West Street was discontinued at the end of April, and expectant mothers were seen during the latter half of one of the infant sessions. Occasional whole sessions have been arranged there according to the numbers attending.

A total of 2,445 expectant mothers attended during the year, an increase of 310 on the previous year. Of these 1,958 were new and attended for the first time. The total attendances were 7,668 as compared with 6,976 for 1928, an increase of 692. All patients are examined by the Medical Officer in charge of the clinic and instruction given in personal hygiene, the care of the breasts, and the importance of breast feeding. The nurse displays specimens and gives instructions as to the making of the best type of clothing for the expected baby. Sterilized maternity outfits are sold at cost price, and milk can be obtained from the Welcomes by the mothers during the last three months of pregnancy.

Particulars of the work at the ante-natal clinics are set out in the following table.

EXPECTANT MOTHERS ON REGISTER.

Welcome.	No. on register at beginning of year.	Registered during year.	Live Births.		On register end of year.	Total attendance of expectant mothers.
			Full Term.	Premature.		
Ellerby .. ..	50	149	114	4	54	597
West Street ..	16	61	53	4	16	273
Burmantofts ..	46	183	130	5	83	608
Hunslet .. ..	31	157	132	11	38	511
University ..	29	92	76	4	31	361
Woodhouse ..	51	219	176	7	69	770
Holbeck .. ..	32	155	128	5	40	544
Armley .. ..	55	204	165	10	77	1,201
Chapeltown ..	34	112	85	11	34	413
St. Nicholas ..	31	188	147	10	44	518
Bramley .. ..	18	64	51	3	21	325
New Wortley ..	30	111	92	10	31	415
Middleton ..	12	47	32	1	15	220
West Hunslet ..	30	123	113	8	22	484
Burley .. ..	14	71	61	2	16	248
Crossgates ..	8	22	21	2	7	121
Totals .. ..	487	1,958	1,576	97	598	7,609

Of the 2,445 mothers on the register 28 miscarried and 81 had still births.

In addition to the above 35 expectant mothers paid 59 visits to Meanwood and Halton Centres where no ante-natal clinics are held, making a total of 7,668 attendances.

Included in the number of live births are 28 sets of twins.

The numbers attending the ante-natal clinics are increasing, but an energetic educational campaign is very necessary to convince

mothers still more of the urgent importance of thorough examination and watchful care throughout their pregnancy.

The establishment of examination clinics and the necessary consulting clinics presents no serious difficulties, but the education of the women to use the clinics is a formidable task which is hardest where the need is greatest. The Ministry of Health published a Memorandum in August in which every midwife was advised, in addition to giving ante-natal care herself, to send her patients for two medical examinations during their pregnancy. Since the circularisation of this to the midwives, the numbers at certain of the clinics have increased enormously, necessitating an additional session at one of them. That every woman should have at least two medical examinations during her pregnancy is very desirable, the first as early as possible and the second preferably about the 32nd to the 36th week of pregnancy. This would probably be sufficient provided the midwives were trained to carry out the ante-natal care efficiently and well. As things are at present, it is more satisfactory to have also regular supervision by a doctor, either the family doctor or the medical officer at an ante-natal clinic. If we are to reduce maternal mortality in childbirth, if we are to diminish the high rate of post-puerperal morbidity, and if we are to cut down the high neo-natal mortality rate, an increasing amount of ante-natal work must be done, and it must be done very thoroughly and very intensively.

Several striking cases occurred during the year which illustrate the benefits of ante-natal care and of which the following is an example :—

Mrs. B.F., aged 42, came to an ante-natal clinic. She gave a history of seventeen previous pregnancies, which had the following terminations in sequence :—2 abortions ; 1 premature baby 7 months ; 2 abortions ; 1 stillborn child 8 months ; 6 abortions, 1 full time child lived one hour ; 3 abortions ; 1 macerated foetus. During her eighteenth pregnancy she attended an ante-natal clinic, was sent for treatment and a live full time child is the result.

**Natal Work.**—Of the total births in the city 2,268 or 29·36 per cent. took place in institutions or nursing homes. There are certain advantages in a mother having her confinement in an institution. She is away from all domestic worries, she is in better hygienic surroundings, and she can have constant attention with skilled help always at hand.

SCHEME FOR UTILISATION OF MATERNITY BEDS IN POOR LAW INFIRMARIES.  
REPORT FOR YEARS 1926, 1927, 1928 AND 1929.

	ST. JAMES' HOSPITAL.					ST. MARY'S INFIRMARY.				
	1926.	1927.	1928.	1929.	1926.	1927.	1928.	1929.		
Number of Beds reserved ..	3	3	3	3	3	3	6†	6		
Total Number of Cases for which accommodation is available ..	78	78	73	78	73	73	136	156		
Number of Cases treated— (a) Normal .. (b) Abnormal .. (c) Not delivered ..	19 1 1	34 10 1	26 8 3	38 4 6*	73 25 2	70 38 4*	102 43 8†	101 27 9†		
TOTAL ..	21	45	39	48	100	112	153	137		
Number of Births— (a) Full term .. (b) Premature .. (c) Stillborn .. (d) Miscarriage ..	19 .. 1 ..	41 .. 2 1	33 † 1 1 ..	42 .. 1 ..	95 2 1 ..	98 4 6 ..	136 7 † § 5 ..	120 6 2 ..		
TOTAL ..	20	44	35	42	98	103	148	123		
Average length of stay (in days) ..	14.9	16.3	16.8	12.6	13.8	13.7	14.2	14.2		
Total Cost per case ..	£4 9s. 1½d.	£4 17s. 7½d.	£4 3s. 3½d.	£2 17s. 5½d.	£5 9s. 3½d.	£5 11s. 8½d.	£3 16s. 11½d.	£3 3s. 9½d.		
Cost per case per week ..	£2 2s. 0d.	£2 2s. 0d.	£2 1s. 0½d.	£1 11s. 0½d.	£2 15s. 6½d.	£2 16s. 9½d.	£1 12s. 1½d.	£1 11s. 4½d.		
Gross Cost to Corporation ..	£93 12s. 0d.	£219 12s. 0d.	£162 7s. 6d.	£137 18s. 6d.	£546 11s. 0d.	£625 10s. 0d.	£588 16s. 6d.	£436 19s. 0d.		
Total nett cost to Corporation ..	1926 ..	1927 ..	1928 ..	1929 ..	Amount of patients' payments, 1926 ..					
Do. do. ..	..	£341 4s. 6d.	..	..	Do. do. ..					
Do. do. ..	1927 ..	£315 18s. 6d.	..	..	Do. do. ..					
Do. do. ..	1928 ..	£200 14s. 6d.	..	..	Do. do. ..					
Do. do. ..	1929 ..	£89 7s. 2d.	..	..	Do. do. ..					

\* Includes 1 baby born before arrival.

† Includes 2 babies born before arrival.

‡ Increased from 3 to 6 beds as from April 1st, 1928.

§ Includes 2 twin babies.

¶ Includes 3 triplet babies.

The Leeds Maternity Hospital is in process of extension and when completed, the number of beds available will be increased to 108.

The number of beds provided by the Corporation at St. Mary's Infirmary is six and at St. James' Hospital three. Those beds were taken full advantage of during the year.

**Specialist Service.**—Facilities are provided by the Local Authority whereby medical practitioners may call in the help of an expert in cases of doubt or difficulty. The number of claims received from consultants for services rendered in connection with this scheme was 20 and the total cost to the Corporation was £58 7s. 6d.

**Maternity and Nursing Homes.**—The number of registered nursing homes in the city on December 31st, 1928, was 27.

The following table gives particulars as to the registration of maternity and nursing homes during 1929 :—

	Maternity Homes.	Other Nursing Homes.
No. of existing registered Homes on January 1st, 1929 .. .. .	24	3
No. of applications for registration .. .. .	2	2
No. of Homes registered .. .. .	2	2
No. of Orders made refusing or cancelling registration .. .. .	..	..
No. of Appeals against such Orders .. .. .	..	..
No. of Cases in which such Orders have been :—		
(a) Confirmed on appeal .. .. .	..	..
(b) Disallowed .. .. .	..	..
No. of applications for exemption from registration .. .. .	3	1
No. of Cases in which exemption has been :—		
(a) Granted .. .. .	3	1
(b) Withdrawn .. .. .	..	..
(c) Refused .. .. .	..	..
No. of Cases in which registration voluntarily surrendered .. .. .	2	..

The total number of registered nursing homes on December 31st, 1929, was 29, comprising :—

Maternity Homes .. .. .	12
Maternity and General Nursing Homes .. .. .	12
General Nursing Homes .. .. .	5

All registered homes were visited regularly and inspected, the number of visits for this purpose being 72.



An analysis of the births registered as occurring in the various lying-in institutions in the city is given in the following table:—

Institution.	No. of births.	Percentage of total registered.
Leeds Maternity Hospital .. ..	1,232	15·95
St. James' Hospital .. ..	524	6·78
St. Mary's Infirmary .. ..	214	2·77
Hope Hospital .. ..	10	0·13
Leeds General Infirmary .. ..	9	0·12
Women and Children's Hospital.. ..	13	0·17
Private Nursing Homes .. ..	266	3·44
Total ..	2,268	29·36

*Illegitimate Births in Institutions.*—Of the 2,268 births which took place in institutions, 321 or 14·2 per cent. were illegitimate. This is an increase of nine on the figure for last year.

*Ambulance Service.*—For the number of cases removed to the various lying-in institutions by the special ambulance provided and maintained for the purpose, see page 88. The ambulance is available at any time, night or day, for the removal of necessitous maternity cases to any of the public lying-in institutions.

**Maternal Mortality.**—During the year 33 mothers lost their lives in childbirth. Last year the number was 36, so there is a decrease of three. The rate of mortality for the city was 4·44 per thousand births, as compared with 4·70 for 1928. The rate in respect of mothers who attended the ante-natal clinics was 2·39 or 46·2 per cent. less than for the whole city, a statement which confirms the advantages of ante-natal supervision.

Every maternal death was investigated on the lines indicated by the Committee on Maternal Mortality of the Ministry of Health. The doctor or doctors in attendance on each case were communicated with or personally interviewed by the Senior Medical Officer for Maternity and Child Welfare. Additional particulars were sometimes obtained from the midwives in attendance, or the health visitors in the district in order that the information should be as complete as possible. The inquiries were conducted in a scrupulously

confidential manner, the greatest care being taken to avoid the escape of any information received from doctors and midwives. The object of these inquiries is not to impute blame, but to discover upon what lines preventative work may best proceed. In addition to the 33 maternal deaths occurring in the city, 28 investigations were carried out for mothers from outside Leeds, who died in Leeds Institutions. (*Vide* page 135).

The following table gives particulars of the maternal death-rate in Leeds for the last 18 years (since 1911):—

#### MATERNAL MORTALITY.

Year.	No. of deaths.	Death-rate per 1,000 births from		
		Sepsis.	Other causes.	Total childbirth.
1911 ..	42	1·51	2·46	3·97
1912 ..	41	1·15	2·78	3·93
1913 ..	61	2·74	3·02	5·76
1914 ..	62	3·16	2·61	5·77
1915 ..	41	1·62	2·53	4·15
1916 ..	39	1·48	2·65	4·13
1917 ..	22	1·06	1·85	2·91
1918 ..	21	0·95	1·89	2·84
1919 ..	36	1·72	3·04	4·76
1920 ..	58	3·03	2·14	5·17
1921 ..	38	1·28	2·46	3·74
1922 ..	33	1·84	1·73	3·57
1923 ..	49	2·07	3·57	5·64
1924 ..	34	1·28	2·69	3·97
1925 ..	40	3·18	1·71	4·89
1926 ..	36	1·74	2·73	4·47
1927 ..	37	1·92	2·82	4·74
1928 ..	35	2·35	2·22	4·57

From Registrar-General's Annual Reports.

*Analysis of Maternal Deaths from 1925-1929 inclusive.*—During the five years 1925-1929, 181 maternal deaths occurred in Leeds. Of these 162 or 89.5 per cent. were legitimate births and 19 or 10.5 per cent. were illegitimate.

The following table gives the number of deaths in relation to number of pregnancies.

No. of pregnancies	1	2	3	4	5	6	7	8	9	10	11	13	Not known
No. of deaths ..	70	33	15	21	9	6	5	6	4	1	5	2	4
Percentage of deaths ..	38.7	18.2	8.3	11.6	5.0	3.3	2.8	3.3	2.2	0.6	2.8	1.1	2.2

It will be noted that the largest number (38.7 per cent.) of deaths occurred in primiparas.

The following table shows the number of deaths occurring in the different age groups:—

20 years and under ..	..	..	8	4.4%
21-25 years ..	..	..	28	15.5%
26-30 „ ..	..	..	59	32.6%
31-35 „ ..	..	..	42	23.2%
36-40 „ ..	..	..	29	16.0%
Over 40 years ..	..	..	15	8.3%

The following table analyses the number of deaths in the different age groups in relation to the number of pregnancies.

No. of Pregnancies ..	1	2	3	4	5	6	7	8	9	10	11	13	Not known
AGE													
20 years and under ..	7	..	..	..	..	..	..	..	..	..	..	..	1
21-25 years ..	19	7	2	..	..	..	..	..	..	..	..	..	..
26-30 „ ..	32	13	3	8	3	..	..	..	..	..	..	..	..
31-35 „ ..	6	7	6	8	4	2	2	2	1	..	2	..	2
36-40 „ ..	3	6	4	3	2	4	2	1	1	..	2	..	1
Over 40 years ..	3	..	..	2	..	..	1	3	2	1	1	2	..

In first pregnancies the highest mortality was in the age group 26-30, the next in the 21-25 group. This is rather contrary to the general impression that the mortality rate is higher in elderly primiparas.

These maternal deaths were attributed to the following causes:—

Sepsis .. .. .	72	39·8%
Sepsis and hæmorrhage ..	3	1·7%
Hæmorrhage .. .. .	44	24·3%
Toxæmia .. .. .	34	18·8%
Toxæmia and hæmorrhage ..	4	2·2%
Hæmorrhage and accidents ..	2	1·1%
Accidents .. .. .	18	9·9%
Other causes .. .. .	4	2·2%

As is usually found to be the case sepsis was responsible for the largest proportion of deaths, hæmorrhage and toxæmias ranked next in number. It is in the septic and the toxæmia groups that improvement must be sought through intensive ante-natal work and better midwifery. "Accidents" are difficult to foresee or avoid. Deaths in this group are among those for which least can be done. It is discouraging to find that after all the efforts made by the Department and the Leeds Babies' Welfare Association the reduction in the maternal mortality achieved during the last five years has been so insignificant. But it is even more distressing that the rate has been practically stationary during the last two decades.

One might conclude from that that there had been no improvement in obstetrics in that time. If, however, one considers the limitations in the size of families which has taken place in the time, and the higher ratio of primiparas to the total number of labours and how much more difficult and dangerous first pregnancies are, it follows that there is some improvement, even although the mortality rate is apparently stationary.

**Neo-Natal Mortality.**—The infant mortality in the first four weeks of life, is a problem closely connected with maternal mortality. For on consideration of the causes of these deaths, it will be found that the majority are connected with obstetrics, and those, along

with the stillbirths represent a considerable loss of life. The only methods available for reducing this loss, lie in intensive ante-natal care, skilled attention during labour and the puerperium, and skilled and intensive care of the feeble and premature infant.

The following table gives the analysis of the causes of neo-natal mortality during the last ten years in Leeds:—

#### NEO-NATAL MORTALITY.

Cause of Death.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Congenital malformation	20	27	29	21	21	19	30	23	14	23
Premature birth ..	226	184	167	152	136	134	133	120	153	148
Atrophy, debility and marasmus .. ..	53	52	61	41	32	39	32	15	25	26
Atelectasis .. ..	25	20	21	24	17	15	19	19	16	19
Injury at birth ..	34	26	16	22	23	18	19	17	10	18
Suffocation including overlying .. ..	5	5	2	1	7	10	4	11	11	17
Diarrhoea-enteritis ..	26	17	26	35	15	12	12	8	7	5
Syphilis .. ..	23	16	11	12	10	9	9	2	2	4
Pneumonia .. ..	15	7	4	11	11	8	12	12	7	19
Convulsions .. ..	43	37	34	29	21	19	17	21	18	16
Other causes .. ..	50	28	30	15	38	26	25	26	23	19
Total .. ..	520	419	401	363	331	309	312	274	286	314
Notified stillbirths ..	461	466	418	379	348	334	380	367	388	382

**Post-Natal Work.**—The number of births notified during the year exclusive of stillbirths was 7,210 or 93·3 per cent. of the total births registered.

**Home Visiting.**—First visits were paid by the health visitors to 7,528 cases. The number of re-visits to children up to five years was 78,001, which together with the first visits makes a total of 85,529. This last figure shows an increase of 4,246 on the number for the previous year.

In addition to paying the routine visits of children from birth to five years, the health visitors, also pay visits in connection with the following:—

1. Stillbirths.—These are investigated, and the mother re-visited in six months time to urge her to attend an ante-natal clinic if again pregnant.
2. Ophthalmia neonatorum.—Cases are kept under observation and progress reported to the office.

3. Measles, whooping cough and pneumonia.—Cases reported to the Department are visited to ascertain if the nursing is adequate.
4. Expectant Mothers.—Progress is watched and advice given where necessary.
5. Medical aid claims.—Visits are made to ascertain particulars.
6. Deaths of children under five.—These are visited to investigate the cause of death.
7. Cases of sickness in children under five notified to this Department by the Leeds General Infirmary and Public Dispensary.

A complete summary of the work of the health visiting staff is appended.

	VISITS.
Notified births including re-visits .. ..	85,529
Stillbirths and deaths under one month including re-visits .. .. .	1,030
Death investigations of children from one month—five years .. .. .	1,163
Ophthalmia Neonatorum .. .. .	126
Measles .. .. .	17,394
Whooping Cough .. .. .	2,487
Pneumonia .. .. .	3,285
Epidemic Diarrhœa.. .. .	21
Expectant mothers .. .. .	3,194
Special visits (medical aid claims 459, cancer 73 and others) .. .. .	908
Visits to ill children notified from the Leeds General Infirmary and Public Dispensary .. .	1,360
Ineffectual visits .. .. .	6,659
Total visits for the year .. ..	<u>123,156</u>

It will be noted that the total visits for the year 1929 was 123,156, an increase of 24,843 on the previous year. The re-organisation of the work of the health visitors and clinic nurses was therefore fully justified. The health visitor in charge of a clinic was also responsible for visiting the homes in a small district immediately around her Welcome. This had the effect of curtailing



the size of the other health visitors' districts and thus permitted of more frequent visits to the homes of children especially between one and five years. Supervision at those ages is very necessary and more so in Leeds, where rickets is so prevalent.

**Infant Welfare Centres (" Welcomes ").**—There are twenty infant welfare centres situated in different parts of Leeds. The premises in which they are held are mostly rented for the purpose by the Leeds Babies' Welcome Association. It is difficult to obtain exactly the kind of accommodation required for an ideal infant welfare centre in adapted premises. Some of the centres fall short of the ideal, being small and ill adapted for the work, whilst others, chiefly those in connection with churches and chapels, offer only very restricted facilities. The Association is, however, constantly on the outlook for new premises and the less satisfactory are gradually being abandoned for better premises. A house has been procured in Beeston Road and it is hoped that the West Hunslet Clinic will be transferred there very shortly.

The number of new babies under one year of age admitted to the Welcomes during 1929 was 4,120, practically the same number as last year. Between one and two years 497 were admitted and between two and five years 877.

The older children, that is, those over one year do not attend the centres as well as they might. The mothers do not yet realise that the child over one year needs very careful supervision in order to prevent disease, which may result in permanent disability or deformity. A certain number (the estimate varies) of children when admitted to the School register at the age of five years show physical defects, some trivial, others serious, which by greater care on the part of the parents could have been prevented. The additional home-visiting will help to keep these children under observation and encourage indifferent parents to have their children properly cared for and treated when necessary.

Of the total children born during the year 55.5 per cent. attended one or other of the Welcomes as compared with 53.8 per cent. for last year. There is a gradual increase each year, which considering the fact that attendance is entirely voluntary is highly satisfactory. The total attendances of all babies at all the Welcomes during the year was 94,968, which includes attendances at the

morning treatment clinics. This represents a decrease of 15,848 when compared with the figure for the previous year. The decrease can be explained by the unusual amount of infectious disease prevalent in the city during the year, which prevented the children attending the Welcomes regularly and acted as a deterrent to mothers who naturally hesitated to expose their children to the risk of infection never absent from any congregation of children in times of epidemic.

It is interesting to note that the infant mortality rate of infants attending the Welcomes was 49 as against 97 for the city, sufficient proof of the good work which these institutions are doing.

What is done to prevent disease and damage cannot be so accurately ascertained, but it is fair to assume that the results in this respect are likely to be as significant as the prevention of death.

A list of the Welcomes and the wards in which they are situated together with the times when the clinics are held is appended.

**Leeds Babies' Welcome Association.**—The Maternity and Child Welfare Department continued to work in close co-operation with the Leeds Babies' Welcome Association during the year. The work of the Association is worthy of high commendation. The attendance of the voluntary workers at the Welcomes was most helpful and much appreciated.

I take this opportunity of extending the thanks of the Maternity and Child Welfare Committee and the Health Department to the Association—President, Officers, Members of Committee and helpers generally—for their valuable work during the year and for their constant loyalty and support.

**Infant Consultations.**—The number of infant consultations at six of the Welcomes is three per week, at eight, two and at five, one, in addition special sessions for massage and treatment of minor ailments are held at 12 Welcomes. Clinics for the treatment of mothers and babies by artificial sunlight are held at Central, Holbeck and Armley Welcomes.

Dental, Orthopædic, Venereal Diseases and Immunization Clinics are also held at the Central Clinic.

Fifteen of the health visitors are in charge of one clinic and two are in charge of two clinics.

## WELCOMES AND CLINICS.

WARD.	ADDRESSES.		DAYS.	TIMES.
E.	Wesleyan School, Richmond Hill .. ..		Tues.	9.30 a.m.
	Do. do. (New Babies) .. ..		Thurs.	9.30 a.m.
	Do. do. .. ..		Thurs.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Mon.	2 p.m.
E.	University Club, Berking Avenue, York Road ..		Mon.	2 p.m.
	Do. do. (New Babies) .. ..		Thurs.	9.30 a.m.
	Do. do. (Expectant Mothers) .. ..		Tues.	2 p.m.
N.	39, Burmantofts Street (New Babies) .. ..		Tues.	2 p.m.
	Do. do. .. ..		Wed.	9.30 a.m.
	Do. do. .. ..		Fri.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Thurs.	9.30 a.m.
N.W.	Church of the Holy Name, Servia Road,			
	Woodhouse Street .. ..		Tues.	2 p.m.
	Do. do. (New Babies) .. ..		Thurs.	9 a.m.
	Do. do. (Expectant Mothers) .. ..		Thurs.	2 p.m.
M.H.	Little Queen Street, West Street .. ..		Mon.	2 p.m.
	Do. do. .. ..		Tues.	9 a.m.
	Do. do. .. ..		Wed.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		†Thurs.	9.30 a.m.
A. & W.	Oddy House, Theaker Lane, Armley .. ..		Tues.	2 p.m.
	Do. do. .. ..		Thurs.	2 p.m.
	Do. do. .. ..		Fri.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Wed.	9.30 a.m.
	Do. do. do. .. ..		Fri.	9.30 a.m.
	Do. do. (Sunlight Clinic) .. ..		†Thurs.	9.30 a.m.
New Wor.	Holdforth Street, New Wortley .. ..		Mon.	2 p.m.
	Do. do. .. ..		Thurs.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Tues.	9.30 a.m.
Hol.	6, Granville Terrace, Holbeck .. ..		Tues.	2 p.m.
	Do. do. .. ..		Thurs.	2 p.m.
	Do. do. .. ..		Fri.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Wed.	9.30 a.m.
	Do. do. (Sunlight Clinic) .. ..		Wed.	9.30 a.m.
	Do. do. do. .. ..		Fri.	9.30 a.m.
	Do. do. (X-ray Clinic) .. ..		Fri.	9.30 a.m.
E.H.	St. Oswald's Institute, Balm Road Terminus,			
	Hunslet Carr .. (New Babies) .. ..		Mon.	9.30 a.m.
	Do. do. .. ..		Mon.	2 p.m.
	Do. do. .. ..		Fri.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Thurs.	9.30 a.m.
Cen.	45, Barrack Road, off Chapeltown Road .. ..		Tues.	9.30 a.m.
	Do. do. .. ..		Wed.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Mon.	9.30 a.m.
S.	St. Nicholas, 205, Hunslet Road .. ..		Tues.	2 p.m.
	Do. do. .. ..		Wed.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Tues.	9.30 a.m.
Bmy.	Town End House, Bramley (New Babies) .. ..		Mon.	9.30 a.m.
	Do. do. .. ..		Wed.	2 p.m.
	Do. do. (Expectant Mothers) .. ..		Fri.	9.30 a.m.
E.H.	Institute, Town Street, Middleton .. ..		Thurs.	1.30 p.m.
	Do. do. (Expectant Mothers) .. ..		Wed.	9.30 a.m.
Hdy.	Wesleyan School, Meanwood .. ..		Wed.	1.30 p.m.
W.H.	West Hunslet Wesleyan School, Ladyfit Street			
	(New Babies) .. ..		Mon.	9.30 a.m.
	Do. do. .. ..		Wed.	1.30 p.m.
	Do. do. (Expectant Mothers) .. ..		Fri.	9.30 a.m.

†Alternate Thursdays.

WELCOMES AND CLINICS (*Continued*).

WARD.	ADDRESSES.	DAYS.	TIMES.
Cen.	Harehills Welcome, 45, Barrack Road .. ..	Fri.	2 p.m.
New*	Wesleyan School, Crossgates .. ..	Tues.	2 p.m.
Hdy.	All Hallows School, Hyde Park Road .. ..	Tues.	2 p.m.
	Do. do. .. ..	Thurs.	2 p.m.
	Do. do. (Expectant Mothers) .. ..	† Tues.	9.30 a.m.
New*	Wesleyan School, Halton .. ..	Wed.	2 p.m.
M.H.	Central Welcome, Calverley Street :—		
	Sunlight .. ..	Mon.	9 a.m.
	Dental .. ..	Tues.	9 a.m.
	Do. .. ..	Tues.	1.30 p.m.
	Do. .. ..	Wed.	9.30 a.m.
			1.30 p.m.
	Do. .. ..	Fri.	9 a.m.
	Do. .. ..	Sat.	9 a.m.
	Do. (Anæsthetics) .. ..	Fri.	9 a.m.
	Orthopædic .. ..	Thurs.	1.30 p.m.
	Venereal Diseases .. ..	Wed.	1.30 p.m.
	Diphtheria Immunization .. ..	Tues.	2 p.m.

\*Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.

†Second and Fourth Tuesdays in each month.

Every infant clinic is attended by a medical officer, a health visitor, clerk dispenser and several voluntary workers, in addition to the health visitor in charge of clinic. A milk secretary attends most of the Welcomes once a week in order to interview mothers who are unable to buy their milk at full price.

The medical officer endeavours to see every baby once a month and advises the mother about its care and feeding. Unsatisfactory babies are seen more frequently. The nurse in charge of the clinic is responsible for making the necessary arrangements for the holding of her clinic and seeing that things are in order so as to avoid confusion and delay. She waits upon the doctor and undertakes any treatment for minor ailments which may be required. Each baby is weighed by the health visitor whilst generally speaking a voluntary worker charts the weight. Voluntary workers and at times the nurse in charge, register new babies and mark the attendance register. Both health visitors get in as much instruction as possible to the individual mother or little groups of mothers during the clinic. A voluntary worker at certain clinics displays model garments and issues instructions as to how they are made. At a few of the Welcomes sewing meetings are held and at one, a class on cookery. Free discussions and talks on various subjects take place at these meetings.

## BABIES UNDER ONE REGISTERED DURING YEAR 1929.

WELCOME.	0-1 month.	1-3 months.	3-6 months.	6-12 months.	Total.
Ellerby ..	122	100	35	28	285
West Street ..	116	112	40	26	294
Burmantofts ..	98	132	37	36	303
Hunslet ..	93	113	20	24	250
University ..	78	91	31	18	218
Woodhouse ..	113	106	27	23	269
Holbeck ..	142	117	24	65	348
Armley ..	132	129	28	60	349
Chapelton ..	88	122	41	25	276
St. Nicholas ..	95	86	20	21	222
Bramley ..	27	46	12	16	101
New Wortley..	93	83	5	26	207
Middleton ..	35	34	7	20	96
Meanwood ..	17	63	18	3	101
West Hunslet	71	87	22	35	215
Harehills ..	23	78	27	11	139
Cross Gates ..	31	44	6	20	101
Burley ..	85	105	38	33	261
*Halton ..	21	38	18	8	85
Totals ..	1,480	1,686	456	498	4,120

## BABIES OVER ONE REGISTERED DURING YEAR 1929.

WELCOME.	1-2 years.	2-3 years.	3-4 years.	4-5 years.	Total.
Ellerby ..	30	25	15	12	82
West Street ..	44	27	24	5	100
Burmantofts ..	40	37	9	9	95
Hunslet ..	22	25	15	9	71
University ..	16	16	17	6	55
Woodhouse ..	22	17	13	4	56
Holbeck ..	37	36	27	16	116
Armley ..	46	51	33	18	148
Chapelton ..	37	32	15	6	90
St. Nicholas ..	30	22	7	10	69
Bramley ..	17	9	12	4	42
New Wortley..	37	39	21	11	108
Middleton ..	13	13	10	8	44
Meanwood ..	10	14	9	6	39
West Hunslet	18	11	14	5	48
Harehills ..	18	13	7	5	43
Cross Gates ..	18	17	10	5	50
Burley ..	20	23	10	4	57
*Halton ..	22	17	19	3	61
Totals ..	497	444	287	146	1,374

\* Taken over from the West Riding County Council on April 1st, 1928.

# ATTENDANCES MADE AT INFANT WELFARE CENTRES DURING YEAR 1929

WELCOME.	Consultations and meetings.			Morning treatment.			
	Mothers.	Babies under 1 year.	Babies 1—5 years.	Mothers	Babies under 1 year.	Babies 1—5 years.	Callers.
Ellerby ..	4,140	2,523	1,753	20	416	249	362
West Street ..	2,506	3,530	2,409	176	876	840	38
Burmantofts ..	3,692	3,090	2,012	75	760	642	21
Hunslet ..	3,217	2,888	2,537	42	470	108	163
University ..	1,946	2,602	2,297	12	1,464	366	272
Woodhouse ..	1,672	2,482	1,409	89	449	130	56
Holbeck ..	2,022	4,026	2,918	97	1,432	397	189
Armley ..	2,838	3,630	2,909	656	1,834	2,907	555
Chapelton ..	1,700	2,594	1,778	14	477	29	19
St. Nicholas ..	3,450	2,492	1,877	95	830	349	763
Bramley ..	557	1,143	1,641	18	303	612	206
New Wortley ..	1,365	2,005	1,842	106	448	538	38
Middleton ..	751	977	1,222	..	83	9	18
Meanwood ..	46	875	542	..	70	8	..
West Hunslet	1,131	2,586	1,709	77	291	204	11
Harehills ..	69	1,585	884	..	169	2	1
Crossgates ..	294	1,214	987	..	14	..	..
Burley ..	217	2,527	1,280	..	402	48	1
*Halton ..	233	1,355	590	..	17	5	..
Totals ..	31,846	44,124	32,596	1,477	10,805	7,443	2,713

\*Taken over from the West Riding County Council on April 1st, 1928.

The Medical Officers and the clinic nurses frequently give talks to the mothers during clinics. Some of the subjects chosen were :—

- |              |                      |                    |
|--------------|----------------------|--------------------|
| 1. Feeding.  | 5. Rickets.          | 9. Toddlers.       |
| 2. Clothing. | 6. Diphtheria.       | 10. Vitamins.      |
| 3. Habits.   | 7. Summer diarrhoea. | 11. Dummies.       |
| 4. Teeth.    | 8. Ventilation.      | 12. Dustbins, etc. |



There are seven whole-time clerk dispensers attached to the Department. They are responsible for handing out the dried milk, cod liver oil, virol and the small quantity of drugs used at the Welcomes, also for the keeping of stocks and records.

*Medical Staff.*—There was no change in the medical staff during the year. It consisted of five whole-time and six part-time medical officers. Of the six part-time, two conducted three sessions, one two sessions, and three one session per week at the Welcomes.

Details of the work at the various Welcomes will be found in the tables on pages 160 and 161.

*Defects discovered at the Centres.*—A table giving the details of the different defects discovered at the clinics during the year will be found on page 163. The results obtained, having regard to the number of times the child was brought for medical examination, are tabulated for each defect. The total number of defects found was 8,755 of which 6,214 were cured or improved; at the end of the year, 1,468 were *in statu quo* whilst 1,073 had been referred elsewhere and their present condition was unknown. Some of the ailments occurred in regular attenders towards the end of the year, so gave little time for advice to have effect, whilst some defects were incurable. Minor defects were treated at the Welcomes, more serious were referred to the family doctor if there was one, or to the Hospitals.

It is striking to note how the proportion of those *in statu quo* to those "cured and improved" is so much less where the child has attended regularly, as compared with the child who attended only a few times. Take for instance the largest group of defects—that of "minor digestive disturbances and dietetic difficulty"—a total of 1,985 cases, the ratio of *in statu quo* to "cured and improved" in those attending only a few times was 1 to 3·6 or in other words 21·6 per cent. were *in statu quo* while in those who attended regularly, *i.e.*, ten or more times, the ratio was 1 to 39·8, or in other words 2·4 per cent. were *in statu quo*.

The percentage of children showing signs of rickets at the different centres does not vary as much as one would expect. The number varies from 3 per cent. to 8·9 per cent. The largest percentages were St. Nicholas 8·9 per cent., Holbeck 8·3 per cent., West Street 7·5 per cent., New Wortley 7·4 per cent.; the lowest were Burley 3·2 per cent. and Halton 3·4 per cent.; the others range between those figures.

Attendances for Medical Examination.		One to five attendances.				Six to ten attendances.				Ten to twenty attendances.				Over twenty attendances.				Totals.
Result.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.	Cured.	Im- proved.	In statu quo.	Referred elsewhere and/or result unknown.		
Defect—	18	187	173	72	25	124	36	7	20	87	22	3	20	19	2	..	815	
Mantrition	10	116	49	57	12	90	7	4	11	65	5	..	4	17	..	..	447	
Debility	297	138	115	105	388	123	26	6	281	70	13	3	73	14	..	..	1,047	
Minor digestive disturb- ances	58	156	35	105	87	18	2	2	62	4	4	..	14	..	..	..	338	
Feeding difficulty	11	186	193	125	32	146	49	14	30	76	10	1	7	16	..	..	896	
Rickets	214	37	24	37	255	27	9	6	194	34	6	5	58	4	..	..	910	
Bronchitis..	140	39	51	40	155	24	17	11	143	20	4	1	20	..	..	1	666	
Skin diseases	31	17	101	108	28	12	53	39	27	13	34	15	3	1	2	..	484	
Enlarged tonsils and adenoids	51	42	122	44	42	26	34	17	41	19	16	6	18	4	..	..	477	
Developmental defects	81	12	15	28	86	9	5	4	60	4	1	..	7	2	..	..	314	
Inflammatory eye con- ditions	78	7	..	9	98	2	..	4	83	2	..	..	5	..	..	..	298	
Infectious disease	53	11	17	25	68	15	..	4	68	5	4	..	10	..	..	..	297	
Otorrhea	43	..	33	19	39	2	10	26	22	2	1	6	8	1	..	3	215	
Phimosis	47	3	..	3	66	..	..	4	61	..	..	2	14	..	..	..	200	
Acute gastro enteritis	20	1	42	68	19	..	5	7	10	..	6	2	2	..	..	1	183	
Dental caries	30	25	18	25	19	11	5	11	11	2	2	3	7	..	..	..	169	
Umbilical hernia	16	12	13	8	18	12	6	..	12	13	2	..	..	..	..	..	112	
Catarrh of upper respira- tory passages	2	2	10	11	1	7	6	2	..	..	4	..	..	..	..	..	45	
Squint	3	2	4	7	5	1	1	4	7	1	4	2	..	..	..	..	41	
Cervical adenitis	5	..	..	6	8	1	1	..	2	1	..	1	..	..	..	..	24	
Pneumonia	..	7	..	..	..	..	..	..	1	2	..	..	..	..	..	..	16	
Pruritus	..	..	2	2	..	..	..	..	6	..	..	..	..	..	..	..	14	
Tonsillitis	4	..	1	1	3	1	..	..	3	..	..	..	1	1	..	..	11	
Sonatitis..	3	..	..	..	1	..	1	..	2	..	1	..	..	..	..	..	11	
Eureasis	2	..	3	..	1	3	..	..	3	3	..	..	..	..	..	..	16	
Tuberculosis (all forms)	1	1	2	3	..	1	..	1	..	1	1	2	..	1	1	..	13	
Infantile Paralysis	..	5	2	1	1	..	..	..	..	1	..	1	..	..	..	..	7	
Fractures (various)	1	..	2	..	2	1	..	2	..	1	1	1	1	..	..	..	6	
Syphilis	..	..	..	5	..	..	..	1	..	..	..	..	..	..	..	..	6	
Erbs' paralysis	..	4	..	..	..	1	1	..	..	2	..	1	..	1	..	..	5	
Rheumatism	..	..	..	2	..	..	..	..	..	..	1	..	..	..	..	..	5	
Mental defect	..	..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	4	
Congenital heart disease	..	..	1	..	..	..	2	..	..	..	..	..	..	..	..	..	4	
Septic umbilicus	..	..	1	3	..	..	..	4	..	..	..	..	..	..	..	..	4	
Fits	..	3	6	7	3	8	6	1	11	..	..	2	1	..	..	..	50	
Miscellaneous	2	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	
TOTALS	1,221	908	1,036	821	1,402	669	288	187	1,169	426	189	60	277	82	5	5	8,755	

*Special Investigation.*—A special investigation was carried out at New Wortley Clinic, with regard to “cases of deformity in their relation to the size of the family and the child’s position in the family.”

The number of children dealt with was 560, and Dr. Barker reports as follows:—

“Amongst these 560 children, there were found to be 59 cases of deformity, or 10.54 per cent. Ten of the cases were congenital deformities, or 16.95 per cent. and 49 were acquired deformities, or 83.05 per cent.—that is to say practically one-sixth of the cases of deformity were congenital, and the remaining five-sixths acquired.

“The following table shows the types of congenital deformity with the number of children in the family and the position in the family of the child possessed of the deformity.

Type of deformity.	No. of Cases.	No. in family.	Position in family.
Congenital heart .. ..	2	1	1
		3	2
Hammer Toe .. ..	2	1	1
		2	1
Hypospadias .. ..	3	5	5
		3	3
		4	4
Talipes .. ..	1	1	1
Webbed Toe .. ..	1	2	2
Harelip .. ..	1	5	5

“Of the 49 cases of acquired deformity, 47 were due to rickets and the remaining two to infantile paralysis. In both cases of infantile paralysis the lower limbs were affected.

#### Infantile Paralysis.

Position in family.	Number in family.
1	1
3	4

" In 33 of the 47 cases of rickets the deformity was of a mild type and in 14 severe.

Rachitic Deformity :—

Mild 33 cases	genu vara	11
	genu valga	22
Severe 14 cases	genu vara	2
	genu valga	12

" The mild cases were those slight knock knees and bow legs which generally respond to a few months regular medical treatment. The severe deformities were those which require many months of medical treatment and in some cases operative treatment will be necessary.

" The genu valga deformity was much more common than the vara deformity.

#### MILD CASES OF RACHITIC DEFORMITY.

No. of children in family	1	2	3	4	5	6	7	8	9	10
No. of cases .. ..	5	9	5	4	5	1	1	1	1	1
23					10					

#### SEVERE CASES OF RACHITIC DEFORMITY.

No. of children in family .. ..	2	3	4	5	6	8	10
No. of cases .. .. .	1	1	3	2	1	4	2
5				9			

" The above two tables show the number of cases compared with the number of children in the family. The rachitic child was either the youngest member or next to the youngest member in the family with three exceptions which will be referred to later.

" The number of mild cases increased as the size of the family decreased—but the number of severe cases increased as the size of the family increased, viz. :—two thirds of the mild cases occurred in families of four or less, whilst two thirds of the severe cases occurred in families of more than four in number.

" The six most severe cases of deformity were the last six mentioned in the table showing the severe cases of rachitic deformity. They occurred in three families with two children in each family—the size of the families being 10, 8 and 8. In each family there was a younger child in its first year. Apparently the size of the family is an important factor in determining the severity of the rickets. In the first place, the child cannot have the same care with regard to diet, sleep and exercise, secondly, the mother cannot attend the child regularly for preventive treatment, and thirdly, when the health visitor calls at the end of the

first year and points out the early signs of rickets and the necessity of obtaining medical advice the mother is too engrossed with the claims of her large family to be bothered with what to her is a trivial matter. Bent legs to many working-class mothers have very little significance; often they are looked upon as a family characteristic, a sort of hall-mark to occasion pride rather than shame. Hence the child is allowed to pass from babyhood, when something might have been done to cure the condition, into childhood when cure is much more difficult and uncertain."

*Adenoids and Enlarged Tonsils Investigation.*—The Welcomes are co-operating in the investigation into the incidence of tonsils and adenoids in children under five years of age. The investigation is carried out on the lines recommended by the Special Committee of the Board of Education. Two hundred very young infants were chosen at random from nine centres and will be followed up from birth for a period of four or five years. An ear, nose and throat specialist was present at the initial inspection of the children and will see every child at six-monthly intervals until the investigation is completed.

*Artificial Sunlight Clinics.*—*Central.*—The lamps at the Central Clinic were used to great advantage during the year. Dr. Forrest is the medical officer in charge and a nurse with special experience carries out the treatment under the doctor's directions.

A total of 496 children and eight mothers were treated at the clinic during the year. An average of 15 per session, or a total of 699 examinations were made by the doctor. The attendances during the year of all cases were as follows:—mothers 212, babies under one year 440, children between one and five years, 6,961—a total of 7,613. The doctor in charge sees each case before, in the middle of, and at the end of the course of treatment.

Dr. Forrest reports as follows:—

"The attendances were good on the whole and most of the mothers were enthusiastic about the benefit derived from the treatment. Many of them noticed that it had a definite action in preventing the spread of infection, the child who was receiving treatment, resisting infection, even when others in the same family became affected.

"The largest group of cases treated was rickets. All those who attended regularly showed definite improvement. The X-ray plates taken at the end of three months treatment showed complete healing in many cases. Those suffering from debility and malnutrition also showed satisfactory progress.

"Among the mothers attending for treatment it was found that rheumatic conditions responded in rather a surprising manner to treatment. One mother has attended regularly for two winters and declares that only since starting sunlight treatment has she been able to go through the winter without being confined to bed."



*Holbeck.*—Both the sunlight lamp and X-ray apparatus were in constant use throughout the year. Dr. Knowles was the medical officer in charge of those clinics and a nurse with special experience carried out the treatment under the doctor's directions.

During the year 301 new cases were admitted to the clinic. The total attendances were as follows:—mothers 47, expectant mothers 2, babies under one 952, children from one to five 5,462, a total of 6,463. The number seen by the doctor during the year was 505, an average of 10 per session.

Dr. Knowles in her report states:—

“Most of the cases treated were of rickets in more or less active form, whilst cases of debility, malnutrition, anæmia, enlarged cervical glands were sent up from time to time as well as cases for preventive treatment.

“The cases of rickets, if they attended regularly, and those of enlarged cervical glands, showed the best results. The value of sunlight as a preventive of rickets is not realised by the mothers, who do not see the necessity of attending for treatment, when there is no visible disease. There is still some difficulty in getting mothers to bring their children up for regular treatment; partly because they do not realise the importance of this, partly because of the distance some of them have to come, and partly because of home conditions, infectious diseases in other members of the family and so on.”

The total number X-rayed included 585 children and 29 mothers, an average of 12 per session. The cases sent for X-ray are mostly rickety children, for diagnosis in early cases and progress during treatment, orthopædic cases, and ante-natal cases where abnormality is suspected.

*Armley.*—A Sunlight clinic was opened at Armley on April 25th. We were enabled to do this by the kindness of the late Mr. Abbott who left a legacy for the installation of an artificial sunlight lamp at Armley Welcome. Treatment is carried out during two sessions weekly under the supervision of Dr. Forrest, the medical officer.

From April 25th till the end of December 1929, 144 children and eight mothers passed through the clinic. The total number seen by the doctor was 429, an average of 13 per session. The attendances made during the year were as follows:—mothers 100, babies under one year 84, children from one to five years 2,088, a total of 2,272.

For the three sunlight clinics there was a total of 16,348 attendances during the year, an increase of 2,940 on the previous year.



## SUNLIGHT TREATMENT (CENTRAL AND HOLBECK CLINICS).

Disease.	Total.	Result.			
		Cured.	Improved.	In statu quo.	Still attending.
Rickets .. ..	566	57	182	63	108
Malnutrition .. ..	56	10	20	2	10
Debility .. ..	176	24	41	14	44
Catarrhal Conditions .. ..	24	8	4	2	6
Preventative .. ..	31	4	8	..	13
Miscellaneous .. ..	55	14	10	..	13
Total .. ..	908	117	265	81	194
					251

Leaving out of account those still attending and those who had defaulted, of the remaining 463, 382 or 82.5 per cent. were cured and improved.

**Orthopædic Clinic.**—The scheme for the treatment of cases of orthopædic deformity in children under five years of age inaugurated in February 1928, is still being carried out.

Children for treatment are selected by the doctors at the Welcomes. One special clinic is held every week at the Central Clinic at which the consulting orthopædic surgeon attends and gives instructions as to treatment. Two masseuses are in attendance at that clinic and make the necessary arrangements for artificial sunlight, massage, remedial exercises or electrical treatment, as the case may be. Men from the makers of surgical appliances also attend, to take measurements for any appliance required. Parents are expected to contribute towards the cost of these appliances, as their means permit, the balance being met by the Corporation. Appliances are also supplied on request to children attending the out-patient department of the Leeds General Infirmary when it can be shown that they are or have been in attendance at a Welcome and are prepared to continue that attendance. A total of 54 appliances was supplied during the year, at a cost of £51 9s. 9d. to the Corporation, of which £26 13s. 6d. was refunded by the parents.

An agreement has been made with the Leeds General Infirmary to undertake operative treatment in any cases requiring it. Plaster cases are also referred to the out-patient department of that Hospital. Twenty-six cases were referred for operation during the year.

There are five beds in the Marguerite Home, Thorparch, for orthopædic cases. This number is wholly inadequate and some of the surplus patients are referred to the Wyther Infants' Hospital, when indoor treatment is required. Increased hospital accommodation for orthopædic cases is urgently required; the inadequacy of the present accommodation is seriously hampering our work.

The total number of children seen by the orthopædic surgeon during 1929 was 272, and of those 165 were new cases. Most children were re-examined by him in three months time or less, to ascertain their progress. The total number of attendances at the clinic was 552, an average of 15 at each session.

Other children with disease of a less severe type, or showing suspicious signs of approaching trouble, were recommended directly by the doctors at the Welcomes, for sunlight, massage and remedial exercises.

There are three trained masseuses attached to the staff, who attend regularly at the Welcomes. During the year 793 children received massage, a total of 12,186 treatments were given, an average of 86 per week.

**Dental Clinic.**—Dental treatment for mothers and children under five years is carried out at Central Clinic. The cases are referred from the doctors at the Welcomes. The work increased so enormously during the year that the sessions which the dentist attended had to be increased from five to seven per week on September 1st. A doctor attends at one session per week for the administration of anæsthetics.

The number of patients who received treatment during the year reached a total of 801 and included 225 children, 418 nursing mothers and 158 expectant mothers, an increase of 250 on the total (eight months) of the previous year. The number of treatments given, was, to children 1,006 to nursing mothers 6,639, to expectant mothers 790, a total of 8,435.

Mr. Fleming reports as follows on the work at the Dental Clinic :—

“ The treatment in a clinic of this class is less of a conservative nature than that of others, say School Clinics, where the patients are being instructed from infancy in the care of the teeth and oral hygiene. Since it is only within comparatively recent years that the importance of a healthy mouth has been given full recognition, the majority of patients attending this clinic had not, as children, the same opportunities of dental treatment as the children of to-day, consequently it is not surprising to find most of the mouths in a deplorable condition.

“ Oral sepsis is prevalent amongst the patients, leaving open only one line of treatment—*i.e.* clearance and replacement by dentures. Unfortunately a great number of the expectant mothers are in an advanced stage of pregnancy before consulting the Welcome doctors, and, on their being referred here, their condition prevents the completion of the preparatory treatment. It is therefore necessary to do in these cases urgent treatment only.

“ The patients seem very grateful for the work which is being done, which fact shews itself in the comparatively small percentage of defaulters, most of whom are expectant mothers.

“ A marked improvement in the general condition of the patients attending after the mouth has been rendered free from sepsis, is observed, and is also remarked on by the patients themselves.”

A scheme for the provision of dentures to the mothers came into operation on the 1st of April. These dentures are supplied to the patient at very favourable rates and in some necessitous cases the Corporation assists in the payment.

A total of 201 mothers were supplied with dentures and of these 42 received full upper and lower dentures, 44 full upper only, 11 full lower only, 100 were partial, and four were remodels.

The total cost to the Corporation of these dentures was £309 5s. and of this £203 19s. was recovered from the patients.

**Auxiliary Clinic for Venereal Diseases.**—A medical officer from the Venereal Diseases Department attends at the Central Clinic one session weekly to examine any patients thought to be suffering from venereal disease or referred to him for another opinion. Of those who are definitely diagnosed as having the disease, some are treated at the clinic, whilst others are referred to the Venereal Diseases Department at the Leeds General Infirmary for further treatment. The total number of new patients was 83, comprising 29 mothers, 35 expectant mothers and 19 babies under one year.

**Diphtheria Immunization.**—Facilities for the immunizing of children against diphtheria were available for all children from 6 months to five years. The numbers taking advantage of this were still disappointingly small. The total number immunized was 73.

An epidemic of diphtheria in one district about the end of the year, aroused the mothers to do something to have their children protected and there was a marked increase in the number from that district applying for treatment. It is difficult to make parents realise that they should not wait till the epidemic is here, but have their children immunized early in life, so that when an epidemic does occur, the children will be protected and go safely through it.

**Milk Distribution.**—Particulars respecting the amount of liquid and dried milk supplied to necessitous mothers attending the Welcomes are given in the accompanying tables.

As in previous years the scheme has been in the hands of a special Committee, composed of representatives from the Maternity and Child Welfare Committee, the Leeds Babies' Welcome Association and other outside bodies engaged in social work.

The Committee met on 49 occasions and considered 6,410 applications, which was 1,588 less than the previous year. In addition it supervised generally the work of the milk staff, details of which appear in the table on page 174.

The amount of dried milk distributed during the year was 47,755 lbs. a decrease of 5,447 as compared with the previous year. As regards the recipients there was an increase from 3,347 in 1928 to 3,544 in 1929.

## AMOUNT OF DRIED MILK DISTRIBUTED IN LBS. (YEAR 1929).

WELCOME.	Free.	Assisted.	Full Price.	Issued through Board of Guardians.	TOTAL.
Ellerby .. ..	2,159 $\frac{3}{4}$	2,176 $\frac{1}{4}$	23 $\frac{3}{4}$	1,119 $\frac{1}{2}$	5,839 $\frac{1}{4}$
West Street ..	2,677 $\frac{3}{4}$	1,829 $\frac{1}{2}$	157 $\frac{1}{2}$	358 $\frac{1}{4}$	5,023
Burmantofts ..	1,645 $\frac{1}{2}$	1,728 $\frac{1}{4}$	117	771 $\frac{1}{2}$	4,262 $\frac{1}{4}$
Hunslet .. ..	2,241 $\frac{3}{4}$	1,785 $\frac{3}{4}$	175	503 $\frac{3}{4}$	4,706 $\frac{1}{4}$
University ..	1,486	1,590 $\frac{3}{4}$	65 $\frac{1}{4}$	345	3,487
Woodhouse ..	975 $\frac{1}{2}$	450 $\frac{3}{4}$	28	43	1,497 $\frac{1}{4}$
Holbeck .. ..	2,032 $\frac{3}{4}$	1,341	202 $\frac{1}{2}$	146 $\frac{1}{4}$	3,722 $\frac{1}{2}$
Armley .. ..	1,175 $\frac{1}{4}$	1,007	295 $\frac{1}{4}$	78 $\frac{1}{4}$	2,555 $\frac{3}{4}$
Chapeltown ..	1,796 $\frac{1}{2}$	1,828 $\frac{1}{4}$	187 $\frac{1}{4}$	319	4,131
St. Nicholas ..	2,460 $\frac{1}{4}$	1,376 $\frac{3}{4}$	138	458 $\frac{1}{2}$	4,433 $\frac{1}{2}$
Bramley .. ..	173	204	61	60	498
New Wortley ..	1,262 $\frac{3}{4}$	932 $\frac{1}{4}$	81	35	2,311
Middleton ..	1,009 $\frac{3}{2}$	605	22	4	1,640 $\frac{3}{4}$
West Hunslet ..	654 $\frac{1}{4}$	545 $\frac{1}{2}$	185 $\frac{1}{4}$	57 $\frac{3}{4}$	1,442 $\frac{3}{4}$
Burley .. ..	39	93	52	10	194
Crossgates ..	604	562	91	55	1,312
Halton .. ..	85 $\frac{3}{4}$	60 $\frac{3}{4}$	13	28	187 $\frac{1}{2}$
External .. ..	363 $\frac{1}{2}$	77 $\frac{3}{4}$	1	69	511 $\frac{1}{4}$
Totals ..	23,203	18,194 $\frac{1}{2}$	1,895 $\frac{3}{4}$	4,461 $\frac{3}{4}$	47,755

## NUMBER OF RECIPIENTS, YEAR 1929 (DRIED MILK).

WELCOME.	Free.	Assisted.	Full Price.	TOTAL.
Ellerby .. ..	296	126	11	433
West Street ..	190	93	16	299
Burmantofts ..	193	117	19	329
Hunslet .. ..	161	140	31	332
University ..	147	85	8	240
Woodhouse ..	78	41	8	127
Holbeck .. ..	150	125	31	306
Armley .. ..	99	65	41	205
Chapeltown ..	140	112	29	281
St. Nicholas ..	184	117	20	321
Bramley .. ..	17	21	18	56
New Wortley ..	86	75	8	169
Middleton ..	34	22	5	61
West Hunslet ..	53	53	29	135
Burley .. ..	5	10	4	19
Crossgates ..	35	26	18	79
Halton .. ..	20	9	8	37
External .. ..	94	20	1	115
Totals ..	1,982	1,257	305	3,544

## AMOUNT OF COWS' MILK DISTRIBUTED IN PINTS. (YEAR 1929).

WELCOME.	Free.	1d. per pint.	2d. per pint.	3d. per pint.	Issued through Board of Guardians.	TOTAL.
Ellerby ..	1,510½	411	486	49	..	2,456½
West Street	1,222	818½	512	14	63	2,629½
Burmantofts	2,674½	404½	148	20	..	3,247
Hunslet ..	766	848	183	147	28	1,972
University ..	2,490	1,155½	88	47	..	3,780½
Woodhouse..	2 290	230	734	..	..	3,254
Holbeck ..	1,308	252	90	33	52	1,735
Armley ..	1,251	412	27	..	..	1,690
Chapeltown	753	443	123	..	..	1,319
St. Nicholas	924	297	118	..	84	1,423
Bramley ..	819	126½	102	..	210	1,257½
New Wortley	1,687	629	161	..	56	2,533
Middleton ..	230½	418	38	..	..	686½
West Hunslet	330	119	..	..	28	477
Burley ..	..	..	..	..	..	..
Crossgates ..	146	..	28	..	..	174
Halton ..	140	..	28	..	21	189
External ..	1,955	584½	216	43	..	2,798½
Totals ..	20,496½	7,148½	3,082	353	542	31,622

## NUMBER OF RECIPIENTS YEAR 1929

WELCOME.	Free.	1d. per pint.	2d. per pint.	3d. per pint.	TOTAL.
Ellerby .. ..	17	7	5	1	30
West Street .. ..	12	6	5	1	24
Burmantofts .. ..	16	6	4	1	27
Hunslet .. ..	14	7	3	2	26
University .. ..	17	8	2	1	28
Woodhouse .. ..	28	4	8	..	40
Holbeck .. ..	16	4	1	1	22
Armley .. ..	10	2	1	..	13
Chapeltown .. ..	10	3	3	..	16
St. Nicholas .. ..	11	4	5	..	20
Bramley .. ..	7	1	3	..	11
New Wortley .. ..	20	9	4	..	33
Middleton .. ..	6	4	1	..	11
West Hunslet .. ..	6	1	..	..	7
Burley .. ..	..	..	..	..	..
Crossgates .. ..	2	..	1	..	3
Halton .. ..	3	..	1	..	4
External .. ..	28	9	7	1	45
Totals .. ..	223	75	54	8	360



## WORK OF MILK STAFF.

	I. Quarter.	II. Quarter.	III. Quarter.	IV. Quarter.	Year.
Applications dealt with (new)	365	387	397	272	1,321
„ „ (repeat)	2,862	2,621	3,116	2,698	11,297
„ „ (refused)		..	..	..	..
No. of re-applications ..	170	127	224	151	672
*No. of external cases dealt with at the office ..	151	151	100	124	526
	3,548	3,186	3,837	3,245	13,816
No. of visits to Welcomes paid by the milk secretaries .. .. .	157	158	173	148	636

\* Persons under treatment at the Public Dispensary and the General Infirmary.

COST OF MILK DISTRIBUTION SCHEME FOR YEAR ENDED  
31ST DECEMBER, 1929.

INCOME.			EXPENDITURE.		
	£	s. d.		£	s. d.
To cash received for sale of dried milk ..	1,353	6 8	By salaries and wages	620	16 1
			„ Cost of dried milk	3,583	14 11
			„ Cost of cows' milk	522	17 8
			„ Printing, stationery, etc. ..	39	16 6
			„ Superannuation		
			„ Contributions ..	29	16 10
„ balance—loss	3,452	13 6	„ Sundries ..	8	18 2
	£4,806	0 2		£4,806	0 2

Nett cost per head to Corporation, £0 17s. 8½d.

The amount of cows' milk distributed decreased from 39,936½ pints in 1928 to 31,622 pints in 1929 whilst the number of recipients decreased from 408 to 360.

The arrangement whereby the Board of Guardians pay for milk supplied to mothers in receipt of poor relief remained in force. The amount issued in this way was 4,461¾ lbs. of dried milk and 542 pints of cows' milk.

The nett cost of the milk distribution scheme for the year was £3,452 13s. 6d., which works out to the Corporation at 17s. 8½d. per head of the total mothers and babies in receipt of milk.

### THE INFANTS' HOSPITAL, WYTHER.

The number of cots in this hospital is 50, 12 for babies under one year and 38 for children from one to five years. Two of the latter are kept for isolation purposes. The nursing staff was the same as in previous years and consisted of matron, one sister, three staff nurses, one senior nurse and thirteen probationers. There is also a non-resident whole-time trained nurse who does massage and light treatment. A Montessori teacher visited the hospital four half-days in the week.

The cases chiefly dealt with during the year were :—dietetic disorders, rickets, malnutrition and marasmus, and children referred from the Orthopædic Clinic.

The Hospital was unfortunate in having several outbreaks of infectious disease at the beginning of the year. There were twenty-two cases of chickenpox, the first of whom was sent home and the others nursed in Hospital. One case of whooping cough occurred in May, which was removed. An outbreak of measles started towards the end of May in connection with which there were 28 cases ; 15 were removed to Seacroft Hospital (two of these were also diphtheria carriers) and the others were nursed in Wyther. There were also eight children removed to the Infectious Disease Hospital, three with clinical diphtheria and five carriers. A few clinical and non-clinical cases of diphtheria occurred among the staff. It was therefore thought advisable to close down the Hospital for complete disinfection as soon as the children were able to be moved. This was done during the first two weeks of August and there was no further case of infection in the Hospital up to the end of the year.

Details of the work of the Hospital are given in the attached tables.

**Day Nursery.**—There is accommodation in the Day Nursery for 40 children. The nursery staff consists of one matron, one staff nurse and nine probationers. The number of children who were admitted during the year was 69 as compared with 34 for the previous year. The total attendances are given in the accompanying table.

## SUMMARY OF CASES TREATED IN THE INFANTS' HOSPITAL, WYTHER.

	Males.	Females.	Total.
Remaining in Hospital, January 1st, 1929 .. .. .	23	19	42
Admitted during the year ..	91	66	157
Discharged during the year ..	78	63	141
Died during the year .. ..	10	5	15
Remaining in Hospital, December 31st, 1929 .. ..	26	17	43

Mortality rate per cent. on admissions 9.6. Average stay in Hospital 71 days.

## CLASSIFICATION OF ADMISSIONS ACCORDING TO AGE AND SEX.

Males.		Females.		Total Infants		Grand Total.
Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	Under 1 year.	Over 1 year.	
34	57	18	48	52	105	157

## ANALYSIS OF DEATHS DURING 1929.

Cause.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Rickets and broncho pneumonia .. .. .	..	..	1	1	2
Rickets, measles and broncho pneumonia .. .. .	..	..	..	1	1
Influenzal pneumonia .. .. .	..	..	1	..	1
Malnutrition and broncho pneumonia .. .. .	1	..	..	..	1
Prematurity and marasmus .. .. .	3	..	..	..	3
Marasmus .. .. .	3	3	..	..	6
Ileo-colitis .. .. .	1	..	..	..	1
TOTAL .. .. .	8	3	2	2	15

## ANALYSIS OF CASES TREATED DURING 1929.

Reason for admission.	Under one year.		Over one year.		Total.
	M.	F.	M.	F.	
Rickets .. .. .	..	..	28	21	49
Rickets and broncho pneumonia .. .. .	..	..	2	3	5
Rickets and blepharitis .. .. .	..	..	..	1	1
Rickets and malnutrition .. .. .	..	..	..	4	4
Rickets and pyelitis .. .. .	..	..	..	2	2
Rickets and bronchitis .. .. .	..	..	2	1	3
Rickets and otorrhœa .. .. .	..	..	1	1	2
Kyphosis (rickets) .. .. .	..	..	3	..	3
Osteoclasia and rickets .. .. .	..	..	2	3	5
Marasmus .. .. .	14	5	2	..	21
Marasmus, acidosis and thrombosis .. .. .	1	..	..	..	1
Marasmus and chronic enteritis .. .. .	2	..	1	1	4
Marasmus, otorrhœa and acidosis .. .. .	1	..	..	..	1
Marasmus and enlarged cervical glands .. .. .	1	..	..	..	1
Marasmus and bronchitis .. .. .	2	1	..	..	3
Prematurity and marasmus .. .. .	3	..	..	..	3
Malnutrition .. .. .	5	6	10	12	33
Malnutrition and broncho pneumonia .. .. .	1	..	1	2	4
Malnutrition after pneumonia .. .. .	..	..	1	..	1
Malnutrition and unresolved pneumonia .. .. .	..	..	1	..	1
Malnutrition and chronic enteritis .. .. .	1	1	5	1	8
Malnutrition and mentally deficient .. .. .	..	..	1	..	1
Malnutrition and bronchitis .. .. .	..	..	1	2	3
Malnutrition and otorrhœa .. .. .	..	2	..	..	2
Malnutrition and convulsions .. .. .	1	..	..	..	1
Cleft palate, malnutrition and bronchitis .. .. .	..	..	1	..	1
Bronchitis .. .. .	2	1	..	..	3
Bronchitis and pyelitis .. .. .	..	..	1	..	1
Bronchitis, otorrhœa and blepharitis .. .. .	1	..	..	..	1
Influenzal broncho pneumonia .. .. .	..	..	1	2	3
Lobar pneumonia and pleurisy .. .. .	..	..	1	..	1
Double talipes (equino-varus) and bronchitis .. .. .	..	1	..	..	1
Acute gastro-enteritis .. .. .	1	..	..	..	1
Chronic enteritis (ileo-colitis) .. .. .	1	..	..	..	1
Infantile paralysis .. .. .	..	..	1	..	1
Tuberculosis of spine .. .. .	..	..	2	5	7
Rheumatic endocarditis .. .. .	..	..	..	1	1
Congenital dislocation of hip .. .. .	..	..	..	2	2
Congenital syphilis .. .. .	..	..	1	..	1
Mentally deficient .. .. .	..	..	1	..	1
Tape-worm .. .. .	..	..	..	2	2
Improper feeding .. .. .	2	..	..	..	2
For observation .. .. .	1	..	1	1	3
TOTAL .. .. .	40	20	74	65	199

The Montessori teacher visited the nursery four half-days in the week.

There is always a waiting list of children for the nursery. Additional accommodation is badly needed, but the difficulty is to secure the funds and a suitable building in an easily accessible position.

**Residential Nursery.**—The number of cots in the Residential Nursery is 26 plus two for isolation. The nursing staff consists of one matron, one sister and 10 probationers.

The Montessori teacher visited three half-days in the week.

There were 20 children in residence on January 1st, 1929, 76 were admitted during the year and 22 remained in residence on December 31st. Nineteen of the children were illegitimate. The average length of stay was 83.5 days. The reasons for admission were as follows:—in 27 cases mothers expecting confinement; in four cases mothers died; in 36 cases illness of mothers; in 24 cases mothers going to work; in four cases the mothers deserted and one case was for observation.

I should like once more to express my own appreciation and that of the Maternity and Child Welfare Committee and the Health Department of the work of the Executive Committees of the Day and Residential Nurseries, whose services given ungrudgingly have been of great value to both Institutions.

TOTAL ATTENDANCES OF RESIDENT AND DAY CHILDREN AT THE NURSERIES, IN AGE GROUPS FOR THE YEAR ENDED 31ST DECEMBER, 1929.

Nursery.	Whole attendances.				Half attendances.			
	Under 3 years.	3-5 years.	Over 5 years.	Total.	Under 3 years.	3-5 years.	Over 5 years.	Total.
Red House Residential Nursery ..	7,967	53	..	8,020	..	..	..	..
Cobden Place Day Nursery	6,284	1,653	1	7,938	471	149	1	621

**Convalescent Treatment for Mothers and Babies.**—Arrangements were made as in previous years for children from three to five

years to have a period of convalescence after sickness at the Meanwood Convalescent Home. During the year 120 children went and all benefited greatly. The average stay was 24·0 days and the cost to the Corporation was £3 10s. 10½d. per head. The parents contributed towards the cost where means permitted. The total cost to the Corporation was £446 0s. 7d. of which £20 13s. was refunded by the parents.

During the year arrangements for the convalescence of mothers with babies through the Leeds Adult Convalescent Society were continued on behalf of the Maternity and Child Welfare Committee as in previous years. The number of mothers with babies for whom convalescence was thus arranged was 113 and for mothers without babies 7. The average stay at the Convalescent Homes was 14·2 days. The nett cost to the Corporation of this provision was £516 10s. 11d. or an average of £2 2s. 6¼d. per case per week. Some of the mothers were able to contribute something towards their convalescence, the total amount thus received being £38 2s. 4d.

**Health Week—September 30th to October 5th.**—During this week, films were exhibited to the mothers at the clinics where it was possible to darken the largest room and in one case a large hall near a clinic was lent for the purpose. One of the three films shown was entitled "Sunlight is Life" and dealt with the benefits to be derived from sunlight, natural and artificial, and the conditions ensuing from lack of sunlight. The other two films dealt with the "Schick test" and "The protection against diphtheria."

The films were exhibited eight times during the week and there was a good attendance of mothers at each. Judging from remarks overheard during the exhibition, most of the lessons which one wished conveyed to the mothers, were quickly noticed by them. The increase in the number asking for diphtheria immunization after the film display however did not come up to expectation.

Competitions were also held at the Clinics—on mothercraft—the competitions varying a little according to the individual Welcome. One essay dealt with ante-natal care and management, and the preparations for the confinement. The other dealt with the toddler of three years old, his feeding, care and management. The other competitions were for the best renovated garment, and at one Welcome the best cooked mid-day meal for a child of three. Some of the essays sent in were very good and deserved special commendation. (*Vide* page 252).



# Inspection and Supervision of Food.

INCLUDING REPORTS BY

THE CHIEF VETERINARY OFFICER

and

THE CITY ANALYST.

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The re-organisation of the work in connection with the inspection of meat and other foods, the Diseases of Animals Acts, the supervision of the milk supply, and the veterinary supervision of all Corporation horses undertaken in the early part of 1929 has proved entirely satisfactory. All the lay inspectors being under the administration of one sub-head, it has been possible to effect a considerable saving in men's time and travelling expenses, and thus to cover the whole work in an effective manner without additions to the staff.

The Food and Drugs (Adulteration) Act, 1928, which consolidates the provisions of the Sale of Food and Drugs Acts, and the Acts relating to butter and margarine, came into force on January 1st and has been of considerable assistance in simplifying procedure.

The Artificial Cream Act, 1929, came into operation on the 1st June, but it is regretted that owing to the limitations contained in Section 2 (1) of the Act, it has not been found of great assistance.

The Agricultural Produce (Grading and Marking) Act, 1928, was made applicable to eggs as from the 28th February, and whilst this Act and the Regulations made thereunder concern the marking of British eggs which have been preserved, the marking of imported eggs is dealt with under another Act, and whilst the officers of this Department are responsible for the marking of preserved British

eggs, the supervision of the marking of imported eggs is the responsibility of another Department, a division of responsibility which is not regarded as entirely satisfactory.

Efforts to interest the Public in "graded milk" have been continued but not with a great deal of success. Many people still seem to prefer to have their milk supplied to them from the open dirt-inviting milk can rather than in the more hygienic bottle. It is cheaper and they are evidently prepared to run the risk of its being contaminated. In this attitude they have the backing of the majority of the retailers as well as of some of the farmers. In no trade are tradition and prejudice more strongly entrenched than in that which is concerned with the handling and sale of our most important food commodity—milk.

The important question of the humane slaughter of cattle has again been under consideration and it has been decided after much argument and demonstration to adopt model byelaw 9b. This, at least, is a step forward.

## **MEAT INSPECTION**

BY

J. A. DIXON, M.R.C.V.S., Chief Veterinary Officer.

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The system of inspection of meat and other foods in the city has not been changed. The public Abattoir and Kirkgate Market are under the constant supervision of a veterinary officer and a lay inspector, whilst the private slaughterhouses are under the supervision of two lay inspectors, and another lay inspector is principally concerned with the inspection of places used for the preparation and storage of food, but acts as a relief inspector, as and when required, at the Public Abattoir and during periods of sickness and holidays for the inspection of private slaughterhouses.

The extensions of the Public Abattoir for the slaughtering of cattle, sheep, and calves have been found of great benefit in relieving the congestion which previously existed at this establishment, but it is regretted that the well-equipped slaughterhouse for pigs is comparatively little used, largely owing to the fact that all the wholesale pork butchers in the city have their own private slaughter-

houses, and also to the practice prevailing of other persons using private slaughterhouses for the slaughter and dressing of pigs in preference to the Public Abattoir. The legal authority advises that the Corporation is not empowered to forbid this irregular use of private slaughterhouses by persons other than the licensees or registered occupiers and a clause to obtain such power has been inserted in a \*Private Bill now being promoted by the Corporation.

**Tuberculous Carcases.**—The number of carcases condemned for tuberculosis during 1929 was as follows:—beef with organs 164, pork with organs 88, and veal with organs 1.

**Slaughterhouses.**—During the year the number of private slaughterhouses was decreased by one, this being a licensed slaughterhouse, the renewal of which was refused for irregular slaughtering. With this exception, the private slaughterhouses, both registered and licensed, have been well conducted.

#### SLAUGHTERHOUSES IN USE.

	Number in use on December 31st.				
	1925	1926	1927	1928	1929
Public Abattoir .. .. .	1	1	1	1	1
Private slaughter-houses (registered)	56	47	46	46	46
Do. (licensed)	9	8	9	10	9
Knackers' Yards .. .. .	2	2	2	2	2

Of the 55 private slaughterhouses remaining on the register, some are used every day, whilst others are not used on more than one or two days a week. The inspectors paid a total of 8,311 visits to these slaughterhouses, or an average of 151 visits or 3 visits per week to each private slaughterhouse. It should be explained that this average is high for one or two of the smaller slaughterhouses which are comparatively little used. These are inspected only when necessary, whilst others in regular use are visited more frequently than three times a week, in fact, a considerable number of slaughterhouses are inspected every day and a few twice a day.

\*This clause has since been struck out of the Bill by the Local Legislation Committee of the House of Commons.

The reduction in the number of registered slaughterhouses continues to engage the attention of the officers of the Department and a clause has been inserted in the local Bill already referred to seeking powers to enable the Corporation to deal with the matter.

**Humane Slaughtering.**—In July the Markets Committee indicated that as a result of their enquiries and visits to other places, they were of the opinion that the use of a mechanical instrument for the slaughter of animals for food should be required and that Article 9b of the model byelaws should be adopted. The Health Committee concurred and both Committees resolved that the model byelaw should be adopted in relation to slaughtering both in the Public Abattoir and private slaughterhouses. The City Council agreed and the byelaw was submitted to the Ministry of Health in due course for approval.

The butchers at this point intervened and made representations to the Ministry objecting to the proposed reform and at the end of the year the matter was still pending. Since then further progress has been made; the butchers have had an opportunity of stating their case, demonstrations in the use of the humane killer have been held and in all probability the byelaw will be in force within a year from the time of writing.

**Public Health (Meat) Regulations, 1924.**—These Regulations have been much better observed by butchers than heretofore. The marking of meat continues to be ignored and it is feared that this special provision of the Public Health (Meat) Regulations will be ignored until the public demand that their meat shall be marked.

The following is a Summary of the cases taken into Court under the Regulations during the year :—

THE PUBLIC HEALTH (MEAT) REGULATIONS, 1924.  
PROSECUTIONS FOR THE YEAR 1929.

No.	Offences.	Result of Hearing.	Remarks.
1	Article 21 (1).—Using dirty sheets for the covering of meat in transit	Fined 20/- .. ..	Butcher.
2	Do. do. do. ..	Fined 20/- .. ..	Carrier.

**Shellfish.**—The condition of shellfish, particularly mussels, coming into the city for sale continues to receive special attention. The Health Committee after due consideration decided to prohibit the sale of mussels from certain places in Ireland and this prohibition continues in effect.

Ten samples of mussels have been examined and although all these have proved to be free from harmful bacteria, further samples are taken from time to time in order to guard against danger to the public health.

*Meat and other foods condemned as unsound.*—The appended table indicates the amount of diseased and unsound meat and other food condemned and disposed of during the year.

MEAT, ETC., DESTROYED BY CONSENT.

	1929.	1928.	1927.	1926.
Beef .. ..	147,635 lbs.	177,389 lbs.	159,943 lbs.	122,471 lbs.
Veal .. ..	8,499 "	8,790 "	5,295 "	7,580 "
Mutton .. ..	14,504 "	13,931 "	12,545 "	8,894 "
Bacon and Ham..	60 "	53 "	384 "	160 "
Pork .. ..	35,102 "	35,239 "	27,003 "	16,785 "
Goat Flesh .. ..	..	60 "	..	..
Offals .. ..	81,217 lbs.	75,775 "	53,988 lbs.	43,521 lbs.
Rabbits .. ..	9,538 "	7,544 "	9,607 "	11,815 "
Poultry .. ..	6,369 "	3,154 "	1,954 "	3,267 "
Game .. ..	834 "	976 "	541 "	549 "
Cheese .. ..	..	..	1,456 "	..
Fish .. ..	73,060 lbs.	84,693 lbs.	75,363 "	91,537 lbs.
Shellfish .. ..	64,447 "	55,325 "	43,718 "	72,901 "
Fruit .. ..	13,548 "	13,821 "	12,184 "	42,439 "
Vegetables .. ..	112,707 "	34,391 "	60,536 "	159,525 "
Inedible fungi .. ..	..	..	95 "	..
Edible fungi .. ..	608 lbs.	255 lbs.	43 "	50 lbs.
Yeast .. ..	1,652 "	1,080 "	736 "	4,794 "
Tinned Goods .. ..	2,849 "	1,601 "	3,430 "	1,538 "
Sundries .. ..	14 "	132 "	190 "	30 "
TOTALS .. ..	572,643 lbs.	514,209 lbs.	469,011 lbs.	587,856 lbs.
No. of Eggs .. ..	1,968	..	2,325	7,725

## MILK AND DAIRIES.

BY

J. A. DIXON, M.R.C.V.S., *Chief Veterinary Officer.*

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**Cows and Cowsheds.**—The total number of farms in the city visited for purposes of inspection of cows and cowsheds was 194, and the total number of visits paid was 778. Three new dairy farms were added during the year, whilst 13 were discontinued, leaving at the end of the year a total of 181 farms on the register, or 10 less than in the previous year.

The average number of cows in the city was 2,975. The total number of examinations made by the Veterinary Officers during the year was 12,012, an increase of 1,067 on the figure for last year. At 11,912 (or 99·17 per cent.) of the examinations the cows were found to be clean, and at 100 (or 0·83 per cent.) dirty. As regards the health of the 2,975 cows examined 72 (or 2·42 per cent.) were found to be diseased, 8 (or 0·27 per cent.) having tuberculosis of the udder, 6 (or 0·20 per cent.) generalised tuberculosis, and 58 (or 1·95 per cent.) diseases other than tuberculosis. In all cases where tuberculosis was diagnosed the animals affected were dealt with under the Tuberculosis Order of 1925.

The 181 registered dairy farms comprise 312 separate sheds all of which are kept under close supervision by the Veterinary Officers assisted by the two lay Cowsheds and Dairies Inspectors. The Veterinary Officers made 1,239 inspections of cowsheds and the lay inspectors 1,854, a total of 3,093. In addition 386 special inspections were made in the early morning in order to supervise the methods of milking in practice at the various farms. At 1,195 (or 96·45 per cent.) of the Veterinary Officers' visits the sheds were reported clean, whilst at the remaining 44 (or 3·55 per cent.) they were dirty. The number of yards inspected by the Veterinary Officers was 183 and the total number of inspections 728. At 703 (or 96·57 per cent.) of the visits the yards were clean, and at 25 (or 3·43 per cent.) dirty. The visits of the lay inspectors were



largely of the " follow up " variety to see that the instructions of the Veterinary Officers were carried out and to give practical advice and help with regard to alterations to structure or improvements in methods of milking.

**Milk and Dairies Order, 1926.**—The Milk and Dairies Order continues to be energetically applied and although amendments could be suggested, this Order is regarded as a most useful instrument in obtaining and maintaining cleanliness in the production, handling and distribution of milk. Although in one or two cases it has been necessary to take proceedings under this Order, the general standard of cleanliness observed by the dairy farmers in the city is high and the city has earned a reputation in this respect amongst the farmers of the whole country. As a result of enforcement of the Order during the year four old cowsheds were abandoned whilst seven new cowsheds and nine new dairies were built. The only unsatisfactory cowsheds and dairies now in the city are situated in those areas which have been most recently added to the city and these are being improved and reconstructed with all speed having regard to the age and structural conditions of the premises and the financial circumstances of the owners.

The water supply to dairy farms continues to present a difficulty especially where the farms are remote, but these difficulties are being overcome either by connections to the town's main or by the sinking of wells.

A considerable amount of work has been done under Articles 27 and 29 of the Order relating to the pattern and structure of milk churns. These Articles are rigidly enforced within the city and regular and frequent inspections are made of churns arriving at the railway stations, notifications of infringements being sent to the Officers of the local authorities concerned.

During the year 25 dairies were removed from the register for various causes, and 39 new registrations were made, leaving at the end of the year 560 dairies on the register. These are now under the regular inspection of the food and drugs inspectors and during the year 1,635 visits of inspection were made.

The following is a summary of the cases taken into Court under the Milk and Dairies Order during the year :—

MILK AND DAIRIES ORDER, 1926.  
PROSECUTIONS FOR THE YEAR, 1929.

No.	Article.	Result of Hearing.	Remarks.
1	Article 27 ..	Dismissed .. .. .	Farmer.
	„ 27 ..	Do. .. .. .	Wholesaler.
	„ 29 (2) ..	Fined 20/- and costs .. ..	Farmer.
2	Article 26 (1) ..	Dismissed under the Probation of Offenders Act on payment of costs	Farmer.
3	Article 23 (2) ..	Fined 40/- on each of two charges	Farmers.
	„ 23 (4) ..	Fined 10/- .. .. .	Farmers.
	„ 23 (2) ..	Fined 40/- on each of two charges	Employee.
	„ 15 ..	Fined 40/- on each of two charges	Employee.
	„ 23 (4) ..	Fined 10/- .. .. .	Employee.
4	Article 23 (2) ..	Fined 40/- .. .. .	Farmer.
	„ 23 (2) ..	Fined 40/- .. .. .	Employee.
5	Article 23 (2) ..	Fined 40/- .. .. .	Farmer.
	„ 23 (2) ..	Fined 40/- .. .. .	Employee (son)

“ Reading ” Samples.—The information gained from the 200 samples of milk specially examined during 1928 as to their bacterial content at the suggestion of the Director of the National Institute of Research in Dairying at Reading proved so interesting that a further series of 200 were taken and similarly examined during the year under review. The comparison of milk produced within the city with that imported by road and rail confirms the opinion expressed in my previous report that milk produced within the city is generally speaking considerably cleaner than that imported.

The following tables show the results of the investigation.

"READING" MILK SAMPLES, 1929.

Bacterial Content per c.c.	Local farms.	Road borne.	Rail borne.	Total.
1- 50,000 }	64 85.3%	33 55.9%	46 69.8%	143
50,000- 100,000 }	4 5.3%	9 15.2%	11 16.7%	24
100,000- 200,000 }	4 5.3%	11 18.6%	3 4.5%	18
200,000- 500,000 }	2 2.7%	2 3.4%	3 4.5%	7
500,000-1,000,000 }	.. ..	1 1.7%	.. ..	1
1,000,000 + .. }	1 1.3%	3 5.1%	3 4.5%	7
Total Samples ..	75	59	66	200

Bacillus Coli Content.	Local farms.	Road borne.	Rail borne.	Total.
B. Coli present in 1 c.c. }	20 26.7%	10 16.9%	23 34.8%	53
" " 0.1 c.c. }	16 21.3%	14 23.7%	12 18.2%	42
" " 0.01 c.c. }	8 10.7%	10 16.9%	12 18.2%	30
" " 0.001 c.c. }	7 9.3%	25 42.4%	18 27.3%	50
B. Coli absent .. }	24 32.0%	.. ..	1 1.5%	25
Total Samples ..	75	59	66	200

**Graded Milk and Issue of Licences.**—The seven producers holding “Grade A” licences at the end of 1928 all renewed their licences, whilst during the year one new licence to produce “Grade A” milk was issued. The number of distributors of “Grade A” milk increased from 196 to 215, whilst the number handling “Grade A (Tuberculin Tested)” milk decreased still further from 22 to 14.

Although the above figures would appear to suggest that the public is indifferent to the quality of its milk, there is reason to believe that such apathy does not exist. The considerable expansion of the trade in bottled but “ungraded” milk is taken as evidence that the consumers are demanding that their milk shall be delivered in bottles and there is everywhere evidence to the effect that the public have not yet appreciated the meaning of “Grade A” milk nor of the other special designations officially employed. It is generally admitted that the present designations are apt to mislead the public who usually regard the designation “Grade A” as indicating the highest grade, and it is to be hoped that the Milk (Special Designations) Order will in the near future be amended so as to make the special designations more clear and more easily understood by the public, and further to protect the public from misrepresentation by making it an offence to put milk other than graded milk into bottles.

“Pasteurised” milk is very rarely sold as such and it is not surprising to note that “Grade A (Tuberculin Tested)” milk fails to increase in public favour. For one reason the designation is too cumbersome and another reason is that the more discriminating portion of the public is now demanding the highest grade, namely, “Certified.” This demand is reflected in the desire of many producers of “Grade A” milk to proceed further and obtain licences for the use of the special designation “Certified.” Such a procedure entails the necessity of the regular tuberculin testing of all the cows in the herd. At present all “Grade A” herds are specially inspected by the veterinary officers every month which has entailed 175 visits and 3,079 examinations of cattle in addition to the routine work of inspection under the Milk and Dairies Order of 1926.

The milk produced is examined monthly as to its bacterial content and the premises and methods are under the regular

supervision of the lay inspectors, so that graded milk produced within the city may be considered to be of dependable quality.

Hitherto the tuberculin testing of cows has been looked upon very shyly by the dairy farmers, but there is reason to believe that a more enlightened view is now being taken and that in the near future "Certified" milk will be produced within the city. Such a development may be expected to popularise still further "Certified" milk as it will thereby render this grade more easily obtainable and by introducing competition reduce the cost to the consumer.

At the two dairy farms owned and managed by the City Council, inspection has been maintained as in the case of graded farms, whilst at one the tuberculin test is regularly applied and the herd maintained tubercle free. It is a pity that both herds cannot be tubercle free if for nothing else as an example to other local producers.

LICENCES ISSUED UNDER THE MILK (SPECIAL DESIGNATIONS)  
ORDER, 1923, DURING THE YEAR, AND SHOWING COMPARISON  
WITH OTHER YEARS.

Description of Licences.	Number in force on 31st December.				
	1925.	1926.	1927.	1928.	1929.
(1) Producers' Licences to use the designation "Grade A" ..	4	5	4*	7	8
(2) Dealers' Licences to use the designation "Certified" .. ..	1	2	8	7	10
(3) Dealers' Licences to use the designation "Grade A (Tuberculin Tested)" :—					
(a) Bottling establishments ..	2	3	4	2	2
(b) Shops .. .. .	57	53	35	22	14
(4) Dealers' Licences to use the designation "Grade A" :—					
(a) Bottling establishments ..	..	4	4	4	3
(b) Shops .. .. .	100	140	179	196	215
(5) Dealers' Licences to use the designation "Pasteurised" :—					
(a) Pasteurising establishments	..	..	..	..	1
(b) Shops .. .. .	..	..	..	..	6

\*Two licences were revoked during the year by the City Council for failing to comply with the requirements of the Milk (Special Designations) Order, 1923, and are not included in the above figures for 1927.

**Dairy Farms and Milkshops.**—The following tables show the number of registered dairy farms and milkshops in the City on December 31st, 1929.

#### DAIRY FARMS.

Number of dairy farms in the City on the register on	
December 31st, 1928 .. .. .	191
Number added to register during the year .. ..	3
Number removed from register during the year ..	13
Number on register on December 31st, 1929 .. ..	181

#### MILKSHOPS.

Number of milkshops in the City on the register on	
December 31st, 1928 .. .. .	555
Number added to register during the year .. ..	39
Number removed from register during the year ..	25
Number on register on December 31st, 1929 .. ..	569

The following visits were paid during the year by the Food and Drugs Inspectors and Dairies and Cowsheds Inspectors in connection with the Milk and Dairies Acts and Orders:—

	VISITS
To milkshops .. .. .	1,635
To cowsheds .. .. .	2,240
To railway stations.. ..	1,016
To farms or milkshops <i>re</i> infectious disease .. ..	31
To food shops and bottled milk stores .. ..	724

**Guinea Pig Tests.**—During the year in addition to the samples of milk submitted to the City Analyst, 92 samples were sent to the School of Medicine for examination for the presence of the tubercle bacillus. Two (or 2·2 per cent.) were returned as positive, both being from farms outside the city. In both cases information to this effect was forwarded to the West Riding County Council in whose district the farms were situated. Special samples of milk were taken from suspected cows by the Veterinary Officers of the West Riding County Council and also by the Chief Veterinary Officer of this city. On examination all the samples proved to be negative and therefore no action could be taken.

**Special Bacterial Tests.**—In addition to 537 milk samples examined in the departmental laboratory (see page 193) four samples were submitted to the City Bacteriologist for special examination—



two of " Certified " milk and two of " Grade A (Tuberculin tested) " milk—and all four samples were returned as being well within the standard prescribed by the Milk (Special Designations) Order of 1923. It may be added that the four samples were of milk produced outside the city.

**Public Health (Prevention of Tuberculosis) Regulations, 1925.—**

Although no official action was necessary under the above-mentioned Regulations, they have been found helpful in preventing persons handling milk whilst suffering from tuberculosis in an active and infectious form.

**Milk for School Children.**—During the year arrangements were made by the Education Committee for supplying milk to the children attending the elementary schools. The milk is distributed in glass bottles of the capacity of one third of a pint and is drunk by the children through special caps provided with straws. The scheme is controlled by a special Committee on which the Retail Dairymen's Association is represented. The milk is delivered to the schools daily and the empty bottles collected cleansed and refilled. Where the dairies supplying the milk are situated inside the city supervision of the quality and methods of handling is possible, but where the sources of production are outside only a limited degree of supervision is possible. Apart from the ordinary inspection to which every dairy in the city is subjected the Health Department has no further responsibility in the matter.

At the end of September, *i.e.*, very shortly after the scheme had been launched, a somewhat alarming incident occurred at two of the schools in North of the city, *viz.*, Moortown and Roundhay Temporary Schools. Practically all the children who had drunk the milk during a certain morning fell ill with symptoms of abdominal pain and vomiting within two hours of taking their ration. The sickness was at once reported to this Department which immediately undertook the investigation of the cause. It was ascertained that the milk consumed by the affected children had been supplied by a Leeds dairyman who obtained it from a farmer in the Wetherby district outside the city. Officers of the local Sanitary Authority in company with those of the County Council and officers of the Leeds Health Department made a full and careful investigation into all the circumstances and a fairly definite case was established against the milk. The cleanliness of both cows and cowshed was far from

satisfactory ; indeed the farmer had only just commenced to send milk to Leeds for distribution to the schools and was really not equipped for the purpose. The milk was examined chemically and bacteriologically and it was found to be heavily contaminated with bacteria which in the opinion of the investigating officers was primarily due to the unclean state of the cows and their surroundings, and to the absence of cooling. The milk supply was stopped until the farmer had mended his ways and reformed his methods and until his cows and premises had been cleaned up. Fortunately all the children recovered and were nothing the worse for their rather unpleasant experience.

The incident which was both regretful and alarming served not only to emphasise the necessity of maintaining a careful watch over the sources of the milk supplied to the schools but also the close interdependence of the Health and School Medical Departments. But for the prompt and effective measures taken by the former much more serious results might have ensued.

**Departmental Laboratory.**—During the year, 762 samples of milk were examined in the departmental laboratory as to bacterial content and contamination with *B. Coli*. They were also examined for keeping properties and 200 by the Gerber method for the amount of fatty and non-fatty solids. Of the number, 200 were taken as in previous years for the National Institute for Research in Dairying at Reading. Of the remainder 277 were graded milk, 175 were samples taken in the course of delivery, 57 taken on delivery to local institutions, 28 taken at the Schools and 25 from other sources—brought to the laboratory by farmers, dairymen and others.

The keeping quality of the graded milk was 3·4 days, milk taken in the course of delivery 2 days, milk taken on delivery to local institutions 2·5 days, and milk taken at the Schools 1·8 days. Twenty-one graded milks did not comply with the standard laid down for *B. Coli*. in the Milk (Special Designations) Order, 1923. In 11 of the 21 *B. Coli* was present in 1/100 c.c.—seven of which were from farms outside the city and four from farms within the city ; in 10, *B. Coli* was present in 1/1000 c.c.—all from farms outside the city. Five “Grade A” milks each with a bacterial count above the standard (200,000 bacteria per c.c.) came from farms outside the city.

Particulars of the samples examined are as follows :—

#### SAMPLES EXAMINED AS TO BACTERIAL CONTENT.

Bacterial Content per c.c.	Graded Milk.	Milk taken in course of delivery.	Institution Milk.	School Milk.	Total.
1- 50,000 .. } 50,000- 100,000 .. } 100,000- 200,000 .. } 200,000- 500,000 .. } 500,000-1,000,000 .. } 1,000,000+ .. .. }	260 93.9% 10 3.6% 3 1.1% 2 0.7% 1 0.4% 1 0.4%	93 53.1% 27 15.4% 23 13.1% 12 6.9% 5 2.9% 15 8.6%	41 71.9% 4 7.0% 5 8.8% 1 1.8% .. .. 6 10.5%	13 46.4% 5 17.9% 7 25.0% .. .. 3 10.7%	407 46 38 15 6 25
Total Samples ..	277	175	57	28	537

#### SAMPLES EXAMINED AS TO B. COLI CONTENT.

	Graded Milk.	Milk taken in course of delivery.	Institution Milk.	School Milk.	Total.
B. Coli present in 1/10 c.c. } " " 1/100 c.c. } " " 1/1000 c.c. } B. Coli absent .. }	17 6.1% 11 4.0% 10 3.6% 239 86.3%	31 17.7% 22 12.6% 102 58.3% 20 11.4%	5 8.8% 12 21.1% 20 35.1% 20 35.1%	3 10.7% 3 10.7% 21 75.0% 1 3.6%	56 48 153 280
Total Samples ..	277	175	57	28	537

N.B.—From September 1st three tubes (1/10 c.c.) were inoculated for each sample of "Certified" Milk.

From September 1st three tubes (1/100 c.c.) were inoculated for each sample of "Grade A (Tuberculin tested)" and "Grade A" milk.

*Milk Samples tested by the Gerber Method.*—During the year 306 samples of milk (including 200 “Reading” samples) were tested in the departmental laboratory by the Gerber method, the results of which were as follows :—

Total.	Genuine.	Deficient in fat only.	Deficient in Solids-not-fat only.	Deficient in fat and Solids-not-fat.
*306	265	16	17	8

\* These were all informal samples.

The average composition of the 306 samples was :—

Fat .. .. 3·57 per cent.  
Solids-not-fat .. .. 8·61 per cent.

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Total solids .. .. 12·18 per cent.

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Article 13 (1) of the Milk and Dairies Order, 1926, demands that the water supply to farms shall be suitable and sufficient, and eight samples of water from farms and other premises have been examined as to their bacterial purity with the following results :—

Containing B. Coli = 3. Free from B. Coli = 5.

In addition the following investigations were undertaken :—

Milk centrifuged and examined for the  
presence of tubercle bacillus .. 45 samples.  
Blood examined .. .. 1 specimen.

Other Work :—

Tubes of media prepared .. .. 4,010  
Microscopic slides prepared, stained,  
and examined in connection with  
various bacterial tests .. .. 150  
Diseased meat specimens preserved .. 11

During the year the laboratory has again been found of great educational benefit to persons engaged in the production and retailing of milk, and also of interest to others not directly engaged in the trade. Individual farmers, dairymen, students, and members of the public have visited the laboratory from time to time and had the various steps in the examination of milk samples explained and demonstrated to them.

## FOOD AND DRUGS. FERTILISERS AND FEEDING STUFFS.

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**Food and Drugs.**—The Sampling Officers took 490 formal and 20 informal samples of food other than milk and cream. The total number of formal samples of all kinds taken during the year was 1,910 and informal 52.

**Condensed and Dried Milk Regulations.**—During the year 17 samples of condensed milk were submitted to the City Analyst for examination. In all cases the contents were reported upon as complying with the Regulations, as also were the labels on the samples.

Eight samples of dried milk were submitted for analysis during the year, all of which were reported as genuine. The labels on the samples in each case complied with the Regulations.

**Public Health (Preservatives, etc. in Food) Regulations.**—One sample of potted meat was reported to contain 0.35 per cent. of boric acid. Proceedings were taken and the case dismissed on a technical point raised by the defending solicitor that the preservative had not been knowingly and wilfully added.

One sample of sausage was reported to contain 0.2 per cent. of boric acid. Proceedings were taken and the defendant was fined 17/- and costs. Two other samples of sausage were reported to contain 140 and 340 parts per million of sulphur dioxide respectively. The retailer in each case was warned by letter from the Medical Officer of Health.

All other samples examined in accordance with the Regulations were found to be genuine.

**Fertilisers and Feeding Stuff Act, 1926.**—During the year 91 samples were taken under the above-mentioned Act and submitted to the City Analyst for examination. Of this number 79 were samples of Feeding Stuffs, the remaining 12 being Fertilisers.

*Fertilisers.*—The 12 samples were taken in an informal manner, being for the most part compounded manures. On examination they proved to be of good quality.

*Feeding Stuffs.*—Of the 79 samples taken, 11 were taken in a formal manner whilst the remaining 68 were informal. Four of the formal samples were reported by the City Analyst not to be in accordance with the standard stated on the warranty issued by the manufacturers. In each case a warning letter was sent. One of the 68 informal samples was reported to be of doubtful quality, and in this case a formal sample was subsequently taken and the result of the analysis was that it did not comply with the statutory declaration issued. The matter was referred to the Town Clerk who advised that a warning letter be sent to the vendors drawing attention to the requirements of Section 1 of the Act. This accordingly was done.

## DISEASES OF ANIMALS ACTS

BY

J. A. DIXON, M.R.C.V.S., *Chief Inspector and Veterinary Inspector.*

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This is the first complete year in which the administration of the Diseases of Animals Acts and Orders made thereunder have been in this Department and experience has proved, if proof were necessary, how intimately diseases amongst animals are associated with the public health. On the one hand meat inspectors visiting private slaughterhouses are able to report the occurrence of disease amongst animals, whilst the Chief Inspector, being responsible for the inspection of livestock markets, the Wholesale Meat Market, the Public Abattoir, and farms, is in a position to survey completely the health and conditions of food animals within the city.

**Tuberculosis Order of 1925.**—Tuberculosis continues to be the most important item from a public health point of view. There is no appreciable reduction in the number of animals reported and dealt with, but without doubt farmers are reporting more promptly cows which they suspect to be affected with tuberculosis and there is reason to believe that we are now dealing with tuberculous animals in earlier stages of the disease than heretofore.

Experience in the slaughterhouses suggests very strongly that many tuberculous animals in rural districts are not reported in



accordance with the Order, but are dealt with by other means, and during the year a routine has been established under which the appropriate local authority is notified of every animal coming into the city for slaughter which in the opinion of the Veterinary Officers should have been reported under the Tuberculosis Order. Already the results of this procedure are discernible in the smaller number of such animals arriving in the city.

During the year 61 notifications of tuberculosis in cattle under the Tuberculosis Order were reported, 20 being from owners and one from a veterinary surgeon, whilst 40 animals suspected of being affected by the disease were discovered by the Veterinary Officers during the course of their routine inspections under the Milk and Dairies Order, 1926. Thus again, as in previous years experience has proved that the Tuberculosis Order can be effective only when regular routine veterinary inspection is carried out.

The investigations conducted under the Order, involved the examination of 1,038 cows in milk, 113 other cows or heifers, and 11 other bovine animals. Thirty-three animals were slaughtered all of which, on post-mortem examination, were found to be affected, 8 with tuberculosis of the udder, 8 with tuberculosis emaciation, and 17 otherwise. The owners of the 33 animals condemned received compensation as follows :—26 at the lowest rate, namely, one-fourth of the agreed market value or 45/—, whichever was the greater, whilst 7 received compensation at the rate of three-fourths of the agreed value.

In addition to dealing with bovine animals suffering from tuberculosis within the city, the Tuberculosis Order empowers the Veterinary Inspector to order the removal from a Market or Auction of any animal which he considers to be affected with the disease within the terms of the Order, and during the year such action was taken with respect to 6 animals at the Victoria Cattle Market, and 3 at the Whitkirk Auction Mart. Eight animals were slaughtered and on post-mortem examination all were found to be suffering from advanced tuberculosis and the carcasses and organs were condemned. The remaining animal ordered to be removed from Whitkirk Auction Mart was taken back to the farm outside the city from which it had come, and the West Riding County Council took proceedings against the farmer for failing to give notice of the disease.

## TUBERCULOSIS ORDER OF 1925.

Annual Return on the working of the above-mentioned Order for the year ending December 31st, 1929.

TOTAL NUMBER OF ANIMALS REPORTED—						61
(a)	By Owner	..	..	..	..	20
(b)	By Veterinary Advisor to owner	..	..	..	..	1
(c)	By Veterinary Officer acting under the Milk and Dairies Order, 1926	..	..	..	..	40
ANIMALS EXAMINED—						
(a)	Cows in milk	..	..	..	..	1,038
(b)	Other Cows or Heifers	..	..	..	..	113
(c)	Other Bovine animals..	..	..	..	..	11
ANIMALS TESTED WITH TUBERCULIN						7
RESULTS OF POST-MORTEM EXAMINATION—						
(a)	Having Tuberculosis of the Udder	..	..	..	..	8
(b)	Giving Tuberculous Milk and showing lesions of Tuberculosis	..	..	..	..	—
(c)	Suffering from Tuberculous Emaciation	..	..	..	..	8
(d)	Affected, but not as in a, b, or c	..	..	..	..	17
COMPENSATION PAYABLE—						£ s. d.
(a)	Full value	..	..	(0)	..	0 0 0
(b)	Three-fourths value	..	..	(7)	..	70 10 0
(c)	One-fourth value or 45/-	..	..	(26)	..	78 0 0
Total Compensation						£148 10 0
Total Salvage received						46 18 2
Nett Compensation						101 11 10
Recoverable from Government, 75% of Gross Compensation						111 7 6
ADMINISTRATION EXPENSES—						£ s. d.
(a)	1. Veterinary examinations	..	..	..	..	0 0 0
	2. Cost of tuberculin	..	..	..	..	0 0 0
	3. Notification fees	..	..	..	..	0 2 6
(b)	Reference to a Pathological Institute	..	..	..	..	5 0 0
(c)	Valuation of Animals slaughtered	..	..	..	..	0 0 0
(d)	1 Cost of travelling	..	..	..	..	40 7 2
	2 Veterinary Officers' Expenses	..	..	..	..	0 9 0
Total Expenses						£45 18 8

**Swine Fever Order of 1908.**—During the year 57 cases of suspected swine fever were reported to the Ministry of Agriculture and Fisheries and after investigation by the Ministry's Officers swine fever was declared to exist in 7 cases.

It may be here explained that every case of unexplained death in a pig is regarded as suspected swine fever and duly reported which

accounts for the discrepancy between the cases reported and those found positive, but it is understood that the Ministry prefer to investigate all suspicious cases even though they prove negative rather than risk a positive case being overlooked.

At the end of the year one swine fever infected place existed in the city.

**Regulation of Movement of Swine Order of 1922.**—The administration of this Order has necessitated the issuing of 1,130 movement licences for the dispersal of 9,666 pigs from the Whitkirk Auction Mart, whilst 1,851 visits to pigkeeping places have been paid to ascertain that the recently moved pigs have been detained and isolated for the proper period.

During the year one pig was ordered to be removed from the Whitkirk Auction Mart by the Veterinary Officer for illness.

The following is a summary of the cases taken into Court under the Order during the year.

#### REGULATION OF MOVEMENT OF SWINE ORDER OF 1922.

##### PROSECUTIONS FOR THE YEAR 1929

No.	Offence.	Result of Hearing.	Remarks.
1	Failing to carry out the instructions printed on a licence issued for the movement of two fat pigs to a slaughterhouse.	Fined 40/- and 10/- costs or 7 days imprisonment.	Pigkeeper.
2	Removing six pigs from Whitkirk Auction Mart without a licence	Fined 20/- or 7 days imprisonment.	Pigkeeper.
3	Removing five pigs from Whitkirk Auction Mart without a licence	Fined 20/- or 7 days imprisonment	Pigkeeper
4	Removing a boar from Whitkirk Auction Mart without a licence	Fined 10/- or 7 days imprisonment	Pigkeeper.
5	Removing a pig under restrictions from his premises to a slaughterhouse without obtaining a slaughter licence	Fined 10/- or 7 days imprisonment	Farmer.
6	Removing 15 pigs from Whitkirk Auction Mart with a licence issued for only 13 pigs	Dismissed .. ..	Pigkeeper.

**Parasitic Mange Order of 1911.**—The one horse which remained affected with this disease at the end of 1928 recovered and no further case of parasitic mange was reported or discovered during the year.

**Exportation and Transit of Horses, Asses and Mules Order of 1911.**—The inspection of horses forwarded to ports for slaughter and the subsequent exportation of their carcasses was carried out as in previous years and every horse entrained for this purpose was inspected at the time of entrainment to ascertain if it was free from contagious disease and fit to travel. During the year 500 animals were so examined and all were found fit to travel and free from infectious disease.

**Anthrax Order of 1928.**—In January a farmer reported that a cow belonging to him had died and that he suspected anthrax to be the cause of death, but on investigation it was found that the cow had died from other causes.

A second cow on another farm found dead in a field proved on examination to have died of anthrax. The diagnosis was confirmed by the officers of the Ministry of Agriculture. The carcass was disposed of under the supervision of an inspector and all possible steps taken to prevent the spread of the disease. No further case occurred.

**Sheep Scab.**—Early in the year a farmer suspected that sheep scab existed amongst his small flock but on investigation his suspicions were not confirmed. During the year 70 sheep arrived in the city for slaughter from areas infected with sheep scab and the skins from all such sheep were immersed in an approved "dip" under the supervision of an inspector before they were allowed to be removed.

**Foot and Mouth Disease.**—No outbreak of this disease occurred in the city or the surrounding County area during the year.

One prosecution was undertaken and a pigkeeper fined £5 and costs for failing to boil offal intended for the food of pigs in accordance with the Foot-and-Mouth Disease (Boiling of Animal Food-stuffs) Order of 1928.

**Animals (Landing from Ireland, Channel Islands and Isle of Man) Order of 1923.**—The administration of this Order has entailed the issuing of 1,298 licences for the further movement from Victoria Cattle Market of 5,046 cattle and 79 sheep recently landed from Ireland. In addition to these 436 movement licences were issued for the further movement of 4,400 cattle, 4,890 sheep, and 528 pigs recently landed from Ireland but dispersed without being passed through the Victoria Cattle Market ; 190 Irish store cattle were received in the city and these were all duly inspected on arrival and further visits were paid to see that they were isolated and detained for the prescribed period of six clear days following their arrival in accordance with the Order.

Of the other scheduled diseases no case was reported or observed.

**Glanders or Farcy Order of 1929.**—The introduction of this Order during the year revokes the previous Order of 1920. According to the circular letter issued with it, the new Order is made in consideration of the fact that this disease is almost now eradicated from the country, only two outbreaks having occurred during the last four years, namely, February, 1926 and September 1928.

The new Order requires notification of the disease to the Local Authority and its investigation by the Veterinary Inspector of that Authority, but the decision as to whether the disease is glanders or not rests with the Chief Veterinary Officer of the Ministry of Agriculture and Fisheries after the examination of material and consideration of the information furnished by the Local Authority's Veterinary Inspector.

No case of disease was reported or observed.

## MUNICIPAL LABORATORY

BY

C. H. MANLEY, M.A., F.I.C., *City Analyst.*

The work commenced in the Municipal Laboratory in June 1928, which marked the advent of a whole-time Analyst, has been continued with success. In the year 1929, analyses have been made, in all, for eight Corporation Departments, viz., Public Health, City Coroner's, City Engineer's, City Police, Waterworks, Sewerage, Highways and Cleansing. This affords some indication of the way in which a laboratory of this kind can be of real service to Departments engaged in widely different types of work.

In the Annual Report for 1928, it was pointed out that, at the close of the year, the number of samples of all kinds examined was at the rate of approximately 2,000 per annum, with an estimated increase to 2,500 in 1929. The actual number of samples analysed in 1929 was 2,812, of which 1,962 were food and drugs. With the present size of staff the Department is now working at its maximum capacity, which may be fairly represented by 2,750 samples, 2,000 being food and drugs and 750 other samples.

**Milk and Food Analysis.**—The tables on pages 208 and 209 set out the numbers of samples taken under the Food and Drugs (Adulteration) Act, 1928, during the year, together with the number and percentage of adulterations. The total percentage of adulteration was 12·7 per cent.

SAMPLES OF MILK AND CREAM SENT TO THE CITY  
ANALYST FOR EXAMINATION DURING 1929.

Article.	Genuine.	Adulterated.	Total.	Taken formally.		Taken informally.	
				Genuine.	Adulterated.	Genuine.	Adulterated.
Milk .. ..	1,198	226	1,424	1,173	220	25	6
Skim Milk ..	6	..	6	6	..	..	..
Cream .. ..	21	1	22	20	1	1	..
<b>TOTAL ..</b>	<b>1,225</b>	<b>227</b>	<b>1,452</b>	<b>1,199</b>	<b>221</b>	<b>26</b>	<b>6</b>
				1,420		32	



The average composition of the 1,424 milk samples taken during the year was :—

	1929.	Standard.
Non-fatty solids ..	8.77 per cent.	8.50 per cent.
Fat .. ..	3.61 „	3.00 „
Total solids ..	<u>12.38 per cent.</u>	<u>11.50 per cent.</u>

Of the 226 samples of milk below standard, 72 contained added water, 129 were deficient in fat, and 25 shewed both added water and fat deficiency.

The largest amount of water found in any sample was 22.6 per cent., and the greatest fat deficiency 40.0 per cent. All the samples were free from boric acid and formaldehyde. The adulteration was 15.9 per cent. as against 13.5 per cent. for the year 1928. This figure is appreciably higher than figures for milk adulteration returned in recent years by certain other local authorities in the north of England. It is significant that the number of milks shewing deficiency in fat is appreciably greater than those containing added water. Apart from deliberate removal of a proportion of the fat from the original milk, shortage of fat may be accounted for by (1) failure to stir or plunge sufficiently at the time of sale, (2) extent of the intervals allowed to elapse between the morning and the evening milking on the one hand, and the evening and the following morning milking on the other, the latter being usually the longer; (3) bottling milk from individual cows instead of the mixed product of the whole herd.

That the greater part of the milk sold in Leeds is of high quality is proved by the figures for the average composition which include adulterated as well as genuine samples. These figures are not materially different from those obtained for the year 1928.

**Roundhay Elementary School Illness.**—Following the sudden outbreak of illness on September 30th at the Roundhay and

Moortown Elementary Schools, a sample of the milk supplied to the children was submitted for analysis. No preservatives or poisonous metals or alkaloids were present, nor was there anything abnormal in the percentages of fat and non-fatty solids. The milk had the following composition :—

Non-fatty solids	..	..	9.12 per cent.
Fat	..	..	4.10 „
<hr/>			
Total solids	..	..	13.22 per cent.
<hr/>			
Ash	..	..	0.74 per cent.

The chemical analysis, therefore, threw no light on the cause of the outbreak.

**Foil Wrapped Cheeses.**—Five half-ounce triangular portions of Gruyère cheese, wrapped in foil, and contained in a circular box originally holding six such portions, were submitted by the Medical Officer of Health for examination, as in each case the underside of the foil and the cheese in contact with it were badly discoloured. On analysis, the foil proved to be an alloy of 96.8 per cent. tin and 3.2 per cent. of antimony, with a trace of iron as impurity. It was known that tin had hitherto been discovered in cheese by a German analyst, but in this instance both tin and antimony were detected in the sample, and found present, in the case of two portions examined jointly, to the extent of :—tin 1.12 grains per lb. ; antimony 0.12 grains per lb. Twelve other samples similarly wrapped, and including Cheddar, Cheshire, and Gruyère types, were then examined, and discolouration was found in all of the Gruyère cheeses (4). In one of these, wrapped in pure tinfoil, the tin amounted to 1.12 grains per lb.

In order to guard against a possible source of danger to the public health (the antimony being a cumulative poison similar to, though less virulent in action than, arsenic), it is suggested that an internal wrapping of grease-proof paper should be employed

in the case of these soft cheeses. It would thus still be possible to offer the cheese in an attractively saleable form, whilst at the same time maintaining its original appearance, along with that of the foil surrounding it.

**Potted Meat.**—Of the 17 samples analysed, three (17·7 per cent.) were adulterated. One of these contained 0·35 per cent. boric acid. The case was taken to Court but was dismissed on a technical point raised by the defending solicitor that the preservative had not been knowingly and wilfully added.

The other two samples (11·8 per cent.) contained 4·2 per cent. and 4·6 per cent. starch respectively. The fact that the remainder (88·2 per cent.) contained no starch would indicate that the majority of potted meat manufacturers in Leeds do not consider the presence of starch necessary for effecting uniform spreading upon bread and butter. It is only fair that, in those cases in which it is used as a make-weight, the product containing it should be sold, not as "potted meat," but as "meat paste."

**Potted Salmon.**—One sample was analysed and found to contain 12·0 per cent. starch. The same arguments apply here as in the case of potted meat, more especially in view of the number of well-known brands of fish paste (containing fish and starch) upon the market to-day, which are sold as such and not as "potted fish."

**Sausages.**—Of 27 samples, three (11·1 per cent.) did not conform with the Public Health (Preservatives, &c. in Food) Regulations, 1925-1927; one contained 0·2 per cent. boric acid. Proceedings were taken in the latter and the defendant fined 17/- and 10/6 costs. Two contained 140 and 340 parts per million of sulphur dioxide respectively. The retailer in each case was warned by letter from the Medical Officer of Health.

**Vinegar.**—Of 12 samples analysed, one (8·3 per cent.) contained only 3·72 per cent. acetic acid, being therefore 7·0 per cent. short of the standard (4·0 per cent.) suggested by the Ministry of Health.

**Malt Vinegar.**—Of nine samples analysed, one (11·1 per cent.) contained only 2·88 per cent. acetic acid, and was therefore 28·0 per cent. below standard.

**Rum.**—Of seven samples analysed, three (42·9 per cent.) were 38, 39 and 42 degrees respectively under proof, the legal limit being 35. In the first and third cases the vendors were fined 10/- and £5 respectively and ordered to pay costs.

**Whiskey.**—Of 10 samples analysed, two (20·0 per cent.) were each 36 degrees under proof. The vendors were warned by letter from the Medical Officer of Health.

**Boric Ointment.**—Of three samples analysed, two (66·7 per cent.) were 7·0 per cent. and 8·0 per cent. deficient respectively in the amount of boric acid (10·0 per cent.) required by the British Pharmacopœia. They contained 9·3 per cent. and 9·2 per cent. boric acid respectively.

**Mercury Ointment.**—One sample was analysed and found to be 66·7 per cent. deficient in mercury required by the British Pharmacopœia (30·0 per cent.). It contained only 10·0 per cent. mercury.

**Prescribed Medicine.**—Of the four informal samples analysed, one (25·0 per cent.) was 22·0 per cent. deficient in the amount of arsenic prescribed. The retailer was warned by letter from the Medical Officer of Health.

**Sweet Spirit of Nitre.**—Of the five samples analysed, three (60·0 per cent.) were 10·0 per cent., 19·7 per cent. and 100·0 per cent. deficient respectively in the amount of ethyl nitrite required by the British Pharmacopœia (1·52 per cent.). The sample in which ethyl nitrite was entirely absent was an imitation product consisting of ammonium acetate, sugar, alcohol, and water. The vendors were all warned by letter from the Medical Officer of Health.

**Fertilisers and Feeding Stuffs Act, 1926.**—Analyses have been continued in connection with the above. All the 12 samples of fertilisers examined were satisfactory. Of the 89 samples of feeding stuffs examined, 11 failed to conform with the statutory statements accompanying them. Of these, one pea meal was adulterated with 30·0 per cent. of wheat meal, in two others, tapioca meal was present in appreciable amounts, and in a fourth, both tapioca meal and excess mineral matter were detected. One locust bean

FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED  
TO THE CITY ANALYST DURING 1929.

Article.	No. examined.			No. adulterated.			Per-centage adultera-tion.
	Formal	Informal	Total	Formal	Informal	Total	
Apples .. ..	1	..	1	..	..	..	..
Almonds (ground) ..	5	..	5	..	..	..	..
Baking powder ..	23	..	23	..	..	..	..
Beer .. ..	43	..	43	..	..	..	..
Bicarbonate of Soda ..	5	..	5	..	..	..	..
Boric ointment ..	3	..	3	2	..	2	66·7%
Brandy .. ..	3	..	3	..	..	..	..
Brawn .. ..	1	..	1	..	..	..	..
Butter .. ..	25	..	25	..	..	..	..
Cascara pills ..	1	..	1	..	..	..	..
Cheese .. ..	9	..	9	..	..	..	..
Cocoa .. ..	9	..	9	..	..	..	..
Coffee .. ..	12	..	12	..	..	..	..
Coffee and chicory ..	1	..	1	..	..	..	..
Condensed milk ..	17	..	17	..	..	..	..
Cordials :—							
Blackcurrant ..	1	..	1	..	..	..	..
Burdock .. ..	2	..	2	..	..	..	..
Ginger wisp ..	1	..	1	..	..	..	..
Lemon wisp ..	1	..	1	..	..	..	..
Lemonade .. ..	5	..	5	..	..	..	..
Tizer .. ..	2	..	2	..	..	..	..
Corned Beef ..	1	..	1	..	..	..	..
Cream .. ..	21	1	22	1	..	1	4·9%
Cream artificial ..	..	2	2	..	..	..	..
Cream cakes and buns ..	15	..	15	..	..	..	..
Cream sandwich ..	..	1	1	..	..	..	..
Cream of Tartar ..	9	..	9	..	..	..	..
Curds .. ..	1	..	1	..	..	..	..
Custard powder ..	3	..	3	..	..	..	..
Cyder .. ..	1	..	1	..	..	..	..
Dried milk .. ..	4	4	8	..	..	..	..
Dripping .. ..	2	..	2	..	..	..	..
Epsom salts .. ..	4	..	4	..	..	..	..
Flour .. ..	29	..	29	..	..	..	..
Flour bun and cake ..	3	..	3	..	..	..	..
Flour—self-raising ..	4	..	4	..	..	..	..
Ginger wine essence ..	1	..	1	..	..	..	..
Ground Ginger ..	4	..	4	..	..	..	..
Glycerine .. ..	1	..	1	..	..	..	..
Health salts .. ..	5	..	5	..	..	..	..
Jelly .. ..	8	..	8	..	..	..	..
Carried forward ..	286	8	294	3	..	3	..

FOOD AND DRUGS (ADULTERATION) ACT, 1928. SAMPLES SUBMITTED  
TO THE CITY ANALYST DURING 1929—Continued.

Article.	No. examined.			No. adulterated.			Per-centage adultera-tion.
	Formal	Informal	Total	Formal	Informal	Total	
Brought forward .. ..	286	8	294	3	..	3	..
Lard .. .. .	15	..	15	..	..	..	..
Lemon crystals .. ..	4	..	4	..	..	..	..
Lemon kali .. .. .	1	..	1	..	..	..	..
Lime fruit (juice) crystals	2	..	2	..	..	..	..
Liquifruta .. .. .	..	1	1	..	..	..	..
Marsh mallow preparations	..	5	5	..	..	..	..
Margarine .. .. .	18	..	18	..	..	..	..
Mercury ointment .. ..	1	..	1	1	..	1	100.0%
Milk .. .. .	1,393	31	1,424	220	6	226	15.9%
Milk—skimmed .. ..	6	..	6	..	..	..	..
Mincemeat .. .. .	2	..	2	..	..	..	..
Morning salts .. .. .	1	..	1	..	..	..	..
Oatmeal .. .. .	6	..	6	..	..	..	..
Olive oil .. .. .	4	..	4	..	..	..	..
Paraffin—liquid .. ..	3	..	3	..	..	..	..
Peas.. .. .	8	..	8	..	..	..	..
Peas and beans .. ..	1	..	1	..	..	..	..
Pearl barley .. .. .	2	..	2	..	..	..	..
Pepper .. .. .	7	..	7	..	..	..	..
Pineapple—tinned .. ..	1	..	1	..	..	..	..
Potted meat .. .. .	17	..	17	3	..	3	17.7%
Potted salmon .. .. .	1	..	1	1	..	1	100.0%
Prescribed medicine .. ..	..	4	4	..	1	1	25.0%
Rice .. .. .	14	..	14	..	..	..	..
Rice ground .. .. .	4	..	4	..	..	..	..
Rum .. .. .	6	1	7	3	..	3	42.9%
Salmon—tinned .. ..	1	..	1	..	..	..	..
Sago .. .. .	1	..	1	..	..	..	..
Salmon paste .. .. .	3	..	3	..	..	..	..
Sausages .. .. .	27	..	27	3	..	3	11.1%
Sugar .. .. .	12	..	12	..	..	..	..
Sugar demarara .. ..	4	..	4	..	..	..	..
Sugar and milk .. ..	1	..	1	1	..	1	100.0%
Sweet spirit of nitre .. ..	5	..	5	3	..	3	60.0%
Sunny comb (syrup) .. ..	..	1	1	..	..	..	..
Tapioca .. .. .	1	..	1	..	..	..	..
Tea .. .. .	15	..	15	..	..	..	..
Tomato soup .. .. .	1	..	1	..	..	..	..
Vinegar .. .. .	12	..	12	1	..	1	8.3%
Vinegar malt .. .. .	9	..	9	1	..	1	11.1%
Whiskey .. .. .	10	..	10	2	..	2	20.0%
Wine .. .. .	5	1	6	..	..	..	..
Total .. .. .	1,910	52	1,962	242	7	249	12.7%



SUMMONSES ISSUED DURING 1929 UNDER THE SALE OF FOOD  
AND DRUGS ACTS.

No. of Sample	Article.	Adulteration or Offence.	Fines. £ s. d.	Remarks.
20s	Milk ..	32.0% deficient in fat ..	..	Dismissed under the Probation of Offenders Act on payment of 25/- costs ; retailer.
71c	Milk ..	6.2% added water ..	10 0 0	} Farmer.
72c	Milk ..	6.8% do. ..	10 0 0	
75c	Milk ..	10.4% added water and 11.3% deficient in fat ..	1 0 0	} Farmer.
87c	Milk ..	6.8% added water and 2.0% deficient in fat ..	1 0 0	
89c	Milk ..	10.6% added water ..	..	Summons withdrawn on payment of Govt. Analyst's fee of £2 2s. ; farmer.
89s	Milk ..	12.6% added water and 15.0% deficient in fat.	..	Dismissed under the Probation of Offenders Act on payment of costs ; farmer.
91s	Milk ..	10.1% added water ..	..	Dismissed under the Probation of Offenders Act on payment of costs ; retailer.
308s	Milk ..	6.4% added water ..	20 0 0	Farmer.
356s	Milk ..	5.5% added water ..	..	To pay Analyst's fee. Case to come up again in 12 months' time ; farmer.
538s	Milk ..	18.6% added water and 19.3% deficient in fat.	5 0 0	To pay 10/6 costs ; retailer.

SUMMONSES ISSUED DURING 1929 UNDER THE SALE OF FOOD  
AND DRUGS ACTS—Continued.

No. of Sample	Article.	Adulteration or Offence.	Fines.			Remarks.
			£	s.	d.	
608s	Sausages	0.2% boric acid .. ..	0	17	0	To pay 10/6 costs ; retailer.
617c	Milk ..	8.8% added water and 11.0% deficient in fat.	1	0	0	To pay 30/- costs ; farmer.
641c	Milk ..	30.0% deficient in fat ..	..	..	..	To pay 14/6 costs ; retailer.
657s	Milk ..	19.0% deficient in fat ..	..	..	..	Dismissed under the Probation of Offend- ers Act on payment of 14/6 costs ; retailer.
658s	Potted meat	0.35% boric acid .. ..	..	..	..	Defendant dismissed on a technical point raised by defending solicitor ; retailer.
707s	Milk ..	28.0% deficient in fat ..	..	..	..	Dismissed under the Probation of Offend- ers Act on payment of 14/6 costs ; retailer.
835c	Milk ..	40.0% deficient in fat ..	1	0	0	Farmer .
975s	Milk ..	22.6% added water and 22.0% deficient in fat.	..	..	..	Dismissed on produc- tion of warranty ; retailer.
966c	Rum ..	38 degrees under proof ..	0	10	0	To pay costs ; publican.
967c	Rum ..	42 degrees under proof ..	5	0	0	To pay costs ; publican.

meal was deficient in oil and albuminoids and contained excess fibre, whilst another was adulterated with 90.0 per cent. of coarsely ground barley.

**Rag Flock Acts, 1911 and 1928.**—Of eight samples of flock examined, one contained 460 parts of chlorine per 100,000. The defendant was dismissed under the Probation of Offenders Act on payment of costs.

**Water.**—The City water has been analysed once a month and detailed reports forwarded. It has continued satisfactory in character throughout the year. Several other enquiries relating to water supplied on Corporation Estates have also been dealt with.

**Medico-legal.**—Analyses have been made in connection with two Assize Court cases, and evidence given. In the first case a report was made upon a set of noxious drugs; in the second—one of warehouse breaking—it was proved by analysis that the clay upon the prisoner's "uskide" shoe heel had the same chemical composition as clay found on the warehouse floor near the safe, upon which an attempt to blow open with gelignite had been made.

The stomach contents of a 23 months old child who had died after swallowing several Easton syrup tablets, intended to be taken by the mother under medical direction, were found to contain 1/20 grain strychnine and 1.2 grains quinine sulphate. Evidence to this effect was duly given before the City Coroner.

**Smoke Abatement.**—The monthly analyses of the five rain gauges in various parts of the city area, and the daily tests of the intensity of the sunlight in Park Square and Headingley have been continued.

**Various.**—Enquiries from the City Engineer (1), Sewerage Engineer (1), Highways Engineer (2), and the Cleansing Department Superintendent (2), have also been received and dealt with.

**Miscellaneous.**—In addition to the above work, 70 other enquiries have been dealt with; 49 of these were special enquiries made by the Medical Officer of Health, and 21 were from private sources.

# Sanitary Circumstances.

BY

A. MASSEY, M.D., Ch.B., D.P.H., *Chief Assistant Medical  
Officer of Health.*

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**Extension of City Boundaries.**—Reference was made in the 1928 Annual Report to the extension of the city boundaries which came into effect on the 1st April of that year. The added territory comprised some 8,000 acres with a population of some 5,000 persons. The sanitary circumstances of the new areas were largely those of a rural community. Some progress has been made in the abolition of privies and like matters in the new areas during the past year, there having been abolished 22 privies and one cesspool, and the drainage of one house connected to the sewer.

**Rivers and Streams.**—The usual co-operation between this Department and the West Riding Rivers Board has been maintained as in previous years. There was nothing in the way of river pollution during the year which calls for special mention.

**Water.**—As before I am indebted to Mr. Shortreed, the Waterworks Manager, for the following particulars with regard to the water supply of the city during the year under review.

The year ended 31st December, 1929, saw the completion of the Middleton covered service reservoir (capacity— $1\frac{1}{4}$  million gallons), The Tinshill covered service reservoir (1 million gallons capacity) and also the Tinshill water tower (100,000 gallons), these works being all necessary to improve the supply to the areas dependent.

During the year 27,070 yards of new distribution mains principally of 4 inches and 6 inches diameter, have been laid, and 9,218 yards of old mains have been replaced by new pipes of not less than 4 inches diameter.

The filter beds have been maintained in good working order.

In spite of a lengthy period of hard frost in February and March, followed by an exceptionally dry spell between the months

of January and October, during which the rainfall in our drainage area was less than half of the average of the past 60 years, the supply throughout our area and those outside districts dependent upon the Corporation was (apart from a short period of prohibition of "swilling") maintained without stoppage or curtailment. The heavy rainfalls of November and December quickly restored the balance and the reservoirs on the 31st December, 1929, contained nearly 200 days' supply.

The total consumption for the year ended 31st December, 1929, was 6,515 million gallons, equal to an average of 17·85 million gallons per day, as compared with a daily average of 18·29 million gallons for the previous year.

During the year carbonates have been added to the water in sufficient quantity to place this definitely above any tendency to plumbo-solvent action at all seasons of the year.

*Analysis—Chemical and Bacteriological.*—Regular monthly analyses are made, the chemical tests being carried out by the City Analyst and the bacteriological tests by the School of Medicine (Leeds University).

**Sewage Disposal.**—I have to thank Mr. E. H. Howatson, the Sewerage Engineer, for the following information respecting the disposal of the city's sewage.

The Main Sewage Purification Works of the City are situated on the new Sewage Disposal Estate at Thorpe Stapleton, about three miles from the centre of the City, to the South-East. The whole of the sewage of the City, excepting that of a small area on the South-Western boundary, which is served by the Rodley Works, is disposed of at the main outfall works at Thorpe Stapleton.

These main outfall works have been in process of construction since 1909, and their capacity, when the sewage tanks, sludge storage tanks, bacteria beds, chemical precipitation buildings and sludge press house are completed, will be such as to enable them to deal with a dry weather flow of 26 million gallons per day from a population estimated at 650,000.

The Rodley Sewage Works have been remodelled, extended, and designed to treat a dry weather flow of 660,000 gallons per day from a population of 20,000.

The City can claim that the Sewage Works at Thorpe Stapleton and Rodley are in line with the most up-to-date works in the country.

**Drainage and Sewerage.**—During 1929, as in previous years, the City Engineer's Department responded usefully to suggestions from the Health Department in the matter of sewer extensions, and during the year some 150 yards of additional branch sewers were constructed. This allowed of the conversion of three privies, and one pail-closet, and the connection to sewers of the drainage of four houses.

**Closet Accommodation.**—During the year the Corporation continued its policy of giving financial assistance to property owners in approved cases in the matter of the cost of converting trough-closets into modern pedestal water-closets, and 793 trough-closets were so converted. The disbursements in this connection for the year amounted to £4,841 1s. 4d. Every effort was made to ensure that the estimates submitted by owners to the Department in respect of trough-closet conversion work were the lowest compatible with a thorough job. For the year the average cost per closet converted worked out at £8 14s. 8d. per conversion, as compared with £9 7s. 0d. in the previous year. The Corporation's contribution was correspondingly lower.

On December 31st, 1929, there remained in the City 3,647 trough-closets, of which owing to various circumstances only about 2,600 are capable of being converted.

Seventy-five privies were replaced by modern water-closets during the year.

The position with regard to the various types of sanitary conveniences in the city at the year end was as follows:—privies 360; pail closets 256; trough-closets 3,647; and cistern water-closets approximately 106,850.

**Cleansing.**—Household refuse collected by the Cleansing Department during 1929, amounted to 174,905 tons, of which 97,912 tons were dealt with at the destructors, 76,917 tons were disposed of at tips and for agricultural purposes and 76 tons were sold as manure to farmers. For this information I am indebted to Mr. S. Thornley, the Cleansing Department.



TABLE SHEWING NUMBERS OF TROUGH CLOSETS, PRIVIES AND PAIL CLOSETS IN THE CITY DURING THE LAST TWENTY-FIVE YEARS.

Year.	Trough Closets.	Privies.	Pail Closets.
1905	10,507	1,669	231
1906	10,461	1,193	229
1907	10,424	963	228
1908	10,410	875	202
1909	10,120	851	198
1910	10,047	821	165
1911	9,963	785	164
*1912	9,934	1,284	221
1913	9,790	1,269	217
1914	9,760	1,211	207
1915	9,738	1,047	188
1916	9,725	1,026	185
1917	9,723	1,023	169
1918	9,693	1,022	166
1919	9,655	1,014	166
†1920	9,594	1,051	155
1921	9,521	900	128
1922	9,324	651	111
1923	9,256	558	102
1924	8,781	472	101
1925	8,222	332	94
‡1926	7,685	332	219
1927	6,447	294	197
§1928	4,440	435	267
1929	3,647	360	256

\*Roundhay, Seacroft, Shadwell and Crossgates were added to the city in this year. In this area there were 502 privies and 61 pail closets.

†Middleton was absorbed in this year. In this area there were 148 privies.

‡Portion of Adel was added to the city in this year. In this area there were 65 privies and 136 pail closets.

§Eccup, Alwoodley, Templenewsam and Austhorpe were added to the city in this year. In these areas there were 192 privies and 106 pail closets.

**Ashbins.**—In response to representations from the Department 3,700 metal ashbins were provided during the year of which 288 were provided by the Corporation in default.

The disposal of refuse in the home has an important bearing on the health of its occupants. Much more refuse than at present could be burnt at home if only householders would take the trouble to do so. In certain parts of the city wet refuse chiefly of a vegetable nature which could be burnt is commonly consigned to ashbins, thus leading to unpleasant smells and constituting a menace to health and comfort. An appeal is made to householders to use ashbins for dry refuse only and to dispose of wet refuse as far as possible by burning in domestic fires.

**Ashpits.**—The large number of ashpits which still exist in Leeds is one of the most disquieting features of the sanitary circumstances of the city. During the latter part of the year a special inquiry was undertaken to ascertain the numbers and types of ashpits in the various wards and also to adjudge the practicability in the varying circumstances of their abolition and the alternative provision of bins. In this connection the table on page 218 will be found of particular interest. From this it will be seen that in the majority of cases the abolition of ashpits would leave sites on which adequate numbers of ashbins in lieu could be placed.

The time is ripe for a mass attack on the ashpit problem in this city, and it is hoped that in the near future it will be possible to make a definite advance towards the entire clearance of this old and unsatisfactory type of refuse receptacle. The size and construction of the ashpit renders it a menace to health and a negation of all the principles of sound hygiene. Powers are being sought in a Bill now before Parliament to enable the Local Authority to require property owners under specified conditions to remove ashpits and substitute sanitary ashbins in lieu. The amenities of the city will thereby be enhanced and Leeds made a healthier place.

**Public Conveniences.**—Reference was made in last year's report to the increasing demand for public conveniences consequent upon the changed social conditions and especially the growth of road traffic. During the year further proposals for the erection of new

## ACCOMMODATION FOR ASHES, ETC.

Wards.	Type of Ash-pit.		Condition of Ash-pit.			PROVISION OF ASH-BINS.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
	Sunken	Other Types.	Good.	Fair.	Bad.	Where Ash-pit could be abolished and Ash-bins provided without demolition of dwelling-houses or parts of houses.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
						Number of Houses served by Ash-pit.						Where Ash-pit could not be abolished and Ash-bins provided without demolition of dwelling-houses or parts of houses.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																	
						1	2	3	4	5	6 or more houses.	No. of bins required.	No. of bins required, space for	Number of Houses served by Ash-pit.				No. of bins required.																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											

conveniences in various parts of the city were considered. It was deemed advisable in each case to advance the project to its final stage in order that a loan might be obtained to cover all rather than that each proposal should be dealt with separately which would necessitate a number of small loans. Hence although no new convenience was actually erected during the year the various proposals were advanced in such a way that they will all come to fruition in the near future. These include Conveniences at Town Street, Bramley; Ley Lane, Armley; Middleton; York Road; Copley Hill and Whingate.

**The Rent and Mortgage Interest Restrictions Acts.**—Since the introduction of the above Acts in 1920, up to the end of 1929, 1,411 applications for certificates have been received and 1,332 certificates and 35 reports issued by the Department. During 1929, 25 applications for certificates were received and 24 certificates and three reports were issued by the Department, as compared with 64 applications, 64 certificates and five reports for the previous year. The number of applications made under these Acts is diminishing progressively. This is due to the increasing number of decontrolled houses in the city and to the extended use by the Department of the powers contained in Section 3 of the 1925 Housing Act.

**Section 3, Housing Act, 1925.**—Up to the end of 1928 the administration in Leeds of Section 3 of the Housing Act, 1925, was the concern of the Housing Inspector working under the Improvements Committee. Since then, however, the operation of the Section has been brought within the sphere of general sanitary work and this has undoubtedly conduced to a much fuller utilisation of the eminently useful powers contained in this Section. Some idea of the extent of reconditioning and improvement work effected by the enforcing of the Section during 1929 will be gathered from the following figures:—

Number of houses where defects found	..	1,050
„ „ houses at which defects remedied		870
„ „ informal notices served	..	1,050
„ „ statutory notices served	..	180

**Offensive Trades.**—Below is a table showing the nature and number of scheduled offensive trades being carried on in the city at the end of the year.

**OFFENSIVE TRADES.**

Nature of Trade.					Number of each Trade.
Bone Boiler	..	..	..	..	5
Fellmonger	..	..	..	..	2
Fat Melter	..	..	..	..	10
Glue Maker	..	..	..	..	1
Gut Scraper	..	..	..	..	4
Leather Dresser	..	..	..	..	23
Rag and Bone Dealer	..	..	..	..	30
Size Maker	..	..	..	..	3
Soap Boiler	..	..	..	..	4
Tanner	..	..	..	..	16
Tripe Boiler	..	..	..	..	12
Fish Frier	..	..	..	..	538
Total	..	..	..	..	648

These trades are being conducted on 613 different premises, of which 538 are fish-frying establishments. Permission was granted during the year for the establishment of offensive trades as follows:— Bone Boiler 1; Fat Melter 1; Rag and Bone Dealer 2. In addition 14 applications were made for permission to establish the offensive trade of a fish frier and of these 13 were granted and one refused.

In one case the permission given for the establishment of the offensive trades of bone boiler and tallow melter was not acted upon and operations at the premises concerned have not been commenced.

There was only one offensive trade discontinued during the year, namely, that of a fish frier.

During the year 2,255 visits of inspection were made to premises in which offensive trades are carried on or in respect of which applications had been received for permission to establish offensive trades.









**District Sanitary Inspection.**—Routine sanitary inspection has continued as in previous years and the amount of this work done during the year under review will be seen on reference to the tables on pages 221, 222 and 223.

The number of preliminary notices served during the year for the abatement of nuisances was 11,502, and the number of statutory notices 4,122. Of the latter 3,415 have been effective and 707 were outstanding at the year end.

*Training of Sanitary Inspectors.*—Six student sanitary inspectors received training in the Department during the year.

**Common Lodging Houses.**—The following are extracts from a report to the Health Committee on registered common lodging-houses in the city, presented during the year.

“ At the year end (1929) there was available in the city the following common lodging-house accommodation in registered premises, viz. :—

For Men	..	..	25 houses, 1,432 beds.
For Women	..	..	3 houses, 116 beds.

“ In two of the women’s establishments children are admitted along with their female guardians as circumstances permit.

“ Assuming all the beds to be occupied each night in the year the number of persons capable of being accommodated in the men’s houses is 522,680, and in the women’s 42,340. During 1929 the actual figures of occupation were 368,078 men and 30,203 women and children (4,952 children). In addition to registered common lodging-houses, there are two Salvation Army hostels and one Church Army hostel with a total of 431 beds which were occupied during the year on 146,246 occasions.

*Adequacy of Accommodation.*—A consideration of the figures above will convey rightly that common lodging-house accommodation in the city is quantitatively adequate. There is in progress a slow but constant improvement in the social and economic circumstances of the class from which the common lodging-house habitué is drawn.

The demand for this type of accommodation is therefore diminishing but there will be need of some provision for many years to come.

*“ Situation and structures of existing Common Lodging Houses.—*Of the 28 common lodging-houses, 13 are situate at the ends of rows of dwelling-houses; nine are placed in the middle of rows of houses with private dwellings contiguous on either side; five are detached and one is situate over a row of lock-up shops. With the notable exception of Templar Street women’s common lodging-house (recently rebuilt and adapted for the purpose, to replace the old house at 54, Lady Lane), the buildings are old and of mean appearance albeit weatherproof and habitable.

“ In all the houses the sleeping-rooms are properly lighted and ventilated. In the majority the day-rooms and common kitchens are unsatisfactory both as regards size and state of repair. If full compliance with modern sanitary standards were pressed, the expense involved in alterations would undoubtedly force the owners to close down—a contingency to be avoided until such time as alternative accommodation is available.

“ In 14 of the lodging-houses, the staircases and passages are dark and ill-ventilated whilst in many cases the floors are worn and uneven. With regard to sanitary provision, all the houses are satisfactory with the possible exception of three where trough-closets still exist.

“ At 10 houses the fire-exit arrangements are inadequate.

*“ Cubic Space.—*The number of beds in each establishment is so regulated that in the sleeping rooms each lodger is accorded 400 cubic feet of air space. The requirement was formerly 350 cubic feet, the increased allowance having been introduced in November, 1928. All houses on the register now conform to the new standard.

*“ Management.—*The matter of management is the crux of the common lodging-house problem. The Leeds Corporation (Consolidation) Act, 1905 (Section 269) requires that either the Keeper or his registered Deputy must be at all times on the premises. Most instances of laxity of control occur at times when the Deputies are in charge. The job of Deputy in a lodging-house is one which, under present conditions, attracts only men of an inferior type.

This accounts largely for much of the unsatisfactory management. The fact is that pecuniary gain, rather than public service, is the first consideration in running the average lodging-house under private enterprise.

“ Although the lodging-house accommodation in Leeds is adequate quantitatively it leaves much to be desired qualitatively. Private enterprise lacks the capital necessary to convert the lodging-houses into hygienic establishments. Moreover, as profit is the sole incentive under the present system, the service suffers accordingly, especially in regard to the employment of cheap labour to fill the responsible post of Deputy.

“ Whilst the demand for common lodging-house accommodation has diminished in recent years, nevertheless, for many years to come such accommodation will be necessary in the city. There is something to be said for the point of view held by many local authorities (already given effect to by some), that the provision of common lodging-houses is a public service and should be undertaken by the Municipality. As it is, in Leeds, the lodging-houses are subjected to such close and constant supervision by the Local Authority, that they might well be said to form part of the city's social services. Whether the principle of municipal proprietorship be conceded or not, there is undoubted need in Leeds of a better type of house, built for the purpose rather than merely adapted from some existing building or group of buildings. I would suggest the possibility of establishing on modern lines two model lodging-houses—one for men and one for women—centrally placed and under municipal control—which would ensure service being placed before profit.”

During the year three houses registered for 67 men lodgers were discontinued. During the year also the women's common lodging-house at 54, Lady Lane was handed over to the Corporation for demolition as part of a street improvement scheme. Alternative accommodation of a temporary nature for this lodging-house has been provided by the adaptation of an existing building in Templar Street. The present premises are a great improvement on the old ones, but they are by no means ideal—adapted premises can never be ideal—and should be superseded by a modern up-to-date building as soon as possible.



## COMMON LODGING-HOUSES.

Number registered—			
Men's	25	Beds available	1,432
Women's	3	"	116
Routine visits to all common lodging-houses..			830
Visits as to drain tests and abatements ..			94
Visits to smallpox contacts .. ..			1,264
Visits for infectious disease .. ..			4
Drain tests (in 7 houses) .. ..			25

Nuisances found and abated :—			FOUND.	ABATED.
Dirty closets .. ..			12	12
Dirty rooms .. ..			30	30
Dirty bedding .. ..			80	80
Defective or stopped drains .. ..			13	13
Defective roofs or eaves spouts .. ..			18	10
Other nuisances .. ..			760	758
Total .. ..			913	903

## HOUSES-LET-IN-LODGINGS.

	HOUSES.	ROOMS.
Registered during 1929, let as furnished rooms	96	501
Removed from Register .. ..	24	129
On register at end of 1929 .. ..	143	781
Houses-let-in-lodgings visited though not registered .. ..	339	945
Drains tested 660, in 201 houses		
Drains re-tested 47, in 10 houses		
Visits for abatement of nuisances .. 928		
„ infectious disease (57 cases) 172		
„ additional inspection .. 1,811		

Nuisances—			FOUND.	ABATED.
Dirty or bad bedding .. ..			39	28
Dirty rooms .. ..			403	336
Overcrowding .. ..			45	34
Dirty closets .. ..			54	50
Other nuisances .. ..			401	191
Structural defects .. ..			335	313



**University Lodgings.**—As in the past the lodgings on the register of approved premises for the use of University students were duly inspected and the results reported to the University Authorities. In this connection the following details are given :—

	Houses.	Rooms.
New lodgings inspected during 1929	44	196
Old lodgings re-inspected ..	143	430
Drains tested—169 drains in 44 houses.		

Details of sanitary defects found and rectified are included in the table under houses-let-in-lodgings.

**Residential Flats.**—In 57 houses there are 206 flats to which 75 visits were paid by the appropriate inspectors. Nuisances found in these places are included in the table under houses-let-in-lodgings.

**Cellar Dwellings and Underground Sleeping Rooms.**—During the year 49 underground rooms which were being used as dwellings were discovered. In 48 of these alternative accommodation had been found at the year end. Of six cellar dwellings found alternative accommodation was found in five cases.

Below are particulars of visits, nuisances found and abated, and notices issued :—

Visits to cellar dwellings .. ..	26	
Visits to underground sleeping-rooms ..	55	
Visits on account of nuisance abatement ..	85	
Preliminary notices served .. ..	61	
Statutory notices served .. ..	—	
Verbal notices given .. ..	—	
Nuisances :—		
Underground sleeping-rooms .. ..	FOUND. 49	ABATED. 48
Cellar Dwellings .. ..	6	5
Other nuisances .. ..	12	12

**Tents and Vans.**—The number of camping grounds for van-dwellers increased from 28 at the end of 1928 to 42 on December 31st, 1929.

Visits to vans (328 vans) .. .. .	1,080	
Visits to tents (6 tents) .. .. .	46	
Visits on account of infectious disease ..	6	
Visits to camping grounds .. .. .	209	
Visits on account of nuisances .. .. .	248	
<b>Nuisances :—</b>		
Dirty camping grounds .. .. .	11	11
Dirty vans .. .. .	5	5
Overcrowded vans .. .. .	3	3
Camping places without sanitary accom- modation .. .. .	22	21
Other nuisances .. .. .	63	55

**Canal Boats.**—The work in connection with the registration and inspection of canal boats has been carried on as in past years.

Details appear in the table appended.

#### CANAL BOATS.

Registered during the year 1929 .. .. .	1
Re-registered and Transferred to fresh owners .. .. .	..
Struck off register (on revising register) .. .. .	1
Remaining on register at end of year.. .. .	165
Visits of inspection to wharves and locks .. .. .	715
Complete inspections of boats (161 boats) .. .. .	605
Cases of infectious disease .. .. .	..
Cases of overcrowding .. .. .	..
Dirty cabins .. .. .	4
Absence of registration certificate .. .. .	7
Boats not marked with registered number .. .. .	16
„ not properly ventilated .. .. .	..
„ requiring painting or repairing .. .. .	10
„ found to be not registered .. .. .	1
Number of children of school age found on registered boats—10 boats, 14 children	

**Ice Cream—Manufacture and Vendors—Premises.**—Section 96 of the Leeds Corporation Act, 1927, which came into operation on the 29th July, 1927, made the registration of premises compulsory—except hotels and restaurants—on which ice-cream is made or sold. Generally speaking, the new powers have resulted in more satisfactory control in respect both of the production and sale of this commodity.

**ICE CREAM STREET VENDORS AND PLACES OF MANUFACTURE.**

Number of ice-cream places on register at the end of 1929 .. .. .	64	
Number of ice-cream vendors at the end of 1929 .. .. .	88	
Number of visits to ice-cream places (72 places) .. .. .	1,325	
Number of ice-cream vehicles inspected (300 vehicles) .. .. .	1,446	
Unsuitable ice-cream places .. .. .	9	
Ice-cream places repaired .. .. .	8	
Places closed on account of unsuitability ..	1	
Visits on account of nuisance abatements ..	63	
<b>Nuisances :—</b>		
Dirty ice cream places .. .. .	FOUND. 20	ABATED. 20
Defective walls and floors .. .. .	3	3
Defective or stopped drains .. .. .	6	6
Other structural defects .. .. .	46	46
Ice-cream vehicles not marked with owner's address .. .. .	7	7
<b>TOTAL ..</b>	<b>82</b>	<b>82</b>

**Schools.**—A separate report is issued by the School Medical Officer, and this includes particulars relating to the sanitary circumstances of the Leeds Schools.

**Rat Repression.**—The Annual Rat Week was held in November and during this period a special effort was made to arouse public interest in the matter of rat destruction. The co-operation of the City Engineer's Department was enlisted and special measures were taken against sewer rats. The Cleansing Department undertook a special effort directed against rats in refuse tips and dumps. Although it is reasonable to suppose that the results of Rat Week were satisfactory, the real aim of rat repression work is continuity of effort.

Particulars of the work done during 1929 under the Rats and Mice (Destruction) Act, 1919, are given hereunder :—

Complaints received .. .. .	216
Premises inspected .. .. .	455
Premises cleared .. .. .	139
Rats caught or found poisoned .. ..	2,401
Visits for purposes of observation of work in progress .. .. .	603
Visits for other purposes—interviews with owners of infested premises and the like ..	143
Informal notices served .. .. .	14
Notices complied with .. .. .	13

**Factory and Workshop Act, 1901.**—A complete summary of the work done during the year under the above Act appears on pages 235 and 236. A feature of the year has been the cordial and useful co-operation between this Department and H.M. Factory Inspectorate. In many cases concerted action by the two Departments resulted in marked improvement in respect of the working conditions in certain workplaces. An instance of this is that of a large works in the city wherein slag-crushing on a large scale is carried on. The emanations of dust and grit from this process had given rise to numerous complaints from residents in houses near the works. A full inquiry was undertaken jointly by the Public Health Department and the Factory Inspector. The action taken following upon this inquiry led the firm in question to effect important alterations which have not only improved the conditions for their own workers but have also largely prevented the emanation of dust and grit beyond the precincts of the works concerned.

**Underground Workplaces.**—The following information is given in respect of underground workplaces in the city. In this connection a workplace is taken as one in which no power plant is employed and which therefore does not come within the jurisdiction of the Home Office. The term “Underground” is taken to mean that the floor of the workplace is more than three feet below the surface of the ground immediately adjoining. Offices are included in the term workplaces. Within the scope of this statement are included both workplaces which are underground in their entirety and those in which parts only of the premises are underground. In both cases, however, employees are habitually engaged in the underground premises or in the portions of premises which are underground.

The total number of underground workplaces (as defined above) in the city is 341 as shown in the table below, viz. :—

Ward.	No. of underground workplaces.	Employees engaged.		
		Males.	Females.	Total.
Mill Hill .. ..	238	707	402	1,109
Central .. ..	49	126	134	260
North East .. ..	12	14	13	27
Brunswick .. ..	12	15	9	24
North .. ..	8	12	7	19
West .. ..	5	29	..	29
New .. ..	1	2	2	4
West Hunslet .. ..	4	6	1	7
South .. ..	8	12	2	14
Headingley .. ..	4	5	2	7
Totals .. ..	341	928	572	1,500

The nature of the occupations carried on in the various underground workplaces is summarised as under, viz. :—

Boot Repairer .. ..	7	Motor and Cycle Dealer	9
Boot Dealer .. ..	11	Offices .. ..	42
Butcher .. ..	13	Paper Merchant .. ..	2
Cabinet Maker .. ..	3	Photographer .. ..	3
Chemist .. ..	5	Piano Dealer .. ..	4
Club Premises .. ..	4	Poultry Dealer .. ..	2
Confectioners .. ..	27	Plumber .. ..	6
Cutler .. ..	2	Printer .. ..	5
Dentist .. ..	1	Rag Sorter .. ..	1
Draper .. ..	19	Rope Dealer .. ..	1
Electrical Engineer .. ..	24	Rubber Manufacturer .. ..	2
Furniture Maker .. ..	14	Sewing Machine Dealer	2
General Stores .. ..	18	Scale Repairer .. ..	1
Glassware Dealer .. ..	3	Stationer .. ..	9
Gramophone Dealer .. ..	5	Tailor and Outfitter .. ..	44
Grocer .. ..	6	Typewriter Dealer .. ..	8
Hairdresser .. ..	6	Wine and Spirit Merchant	7
Hotels and Restaurants	10	Yeast Merchant .. ..	1
Jeweller .. ..	5		
Leather Dealer .. ..	4	Total .. ..	341
Metal Worker .. ..	5		

*Offices.*—From the above it will be observed that 42 underground workplaces serve as offices. There can be no doubt that there are many places in the city in use as offices—underground and above ground—which are quite unfit for the purpose. It is not uncommon to find that employers hold the view that accommodation for clerical staff matters little. Perhaps this attitude is born of the fact that the Factory and Workshops Acts do not apply directly to clerical workers.

As the legal position stands to-day, clerks are not definitely assured of adequate air-space in which to work or even of proper sanitary provision according to their numbers and sex composition. It is clear then that legislation on behalf of office-workers is overdue, and it is reassuring to note that a Bill, designed to meet such points as those above mentioned, is at the present time under consideration by the House of Commons. The Bill, among other things, aims at the gradual supersession of underground offices, for it allows three years from the passing of the Act, after which time occupation of such premises will be permitted only under certificate from the Local Authority. The provisions of the Bill, in this connection, follow precisely those of the Factory and Workshops Act, 1901 relating to underground bakehouses. It is unlikely that the Bill, being a Private Member's Bill, will pass into law this session but even if it has to be abandoned now it will come again in due course for the reforms it adumbrates are necessary and irresistible. Meanwhile this preliminary note throws some light on the position in Leeds.

.. OTHER VISITS PAID BY MALE WORKSHOPS INSPECTORS.

	Factories.	Workshops.	Workplaces.
Non-abatements .. ..	251	169	85
Drain Inspection .. ..	68	28	43
Drains tested .. ..	33	20	32
Disease enquiries .. ..	139	14	23
River pollution .. ..	7	..	..
Complaints .. ..	35	16	..
Measurement of workrooms ..	..	14	..
Other causes .. ..	167	132	54
TOTAL .. ..	700	393	237



**Plans.**—The system whereby plans submitted to the Building Surveyor and dealing with schemes involving sanitary works are reviewed by this Department before being finally approved by the Corporation, was continued throughout the year. The total number of plans examined and commented upon was 234, as compared with 245 for the previous year.

**Work of Women Inspectors.**—There are two women sanitary inspectors employed in the Department. Their routine duties comprise the visiting of outworkers, the investigation of outbreaks of infectious disease in factories, workshops and schools, the routine inspection of workshops and certain restaurants and the investigation of complaints received from the factory inspectors or other sources relating to sanitary defects affecting the health of female workers. The following is a summary of their year's work :—

*Infectious Diseases.*—The following visits were made :—

To schools (on account of 1,554 cases)	..	1,351
To absent pupils	.. .. .	112
To factories (137 cases)	.. .. .	148
To workshops	.. .. .	1
To workplaces, including restaurants (37 cases)		54
To absent employees	.. .. .	2
Special visits	.. .. .	14

*Factories and Workshops.*—Part of the work done by the women inspectors under this heading appears on pages 235 and 236.

In addition to that appearing in the table the following visits were paid :—

Outworkers' homes	.. .. .	701
Outworkers, employers' premises	..	134
Factories	.. .. .	10
Workshops (routine and complaint)	..	169
Workplaces and restaurants do.	..	839
Special visits	.. .. .	16

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1,869

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Inspections of public sanitary conveniences  
for women .. .. . 228  
Nuisances found 66, abated 63.

# FACTORIES AND WORKSHOPS.

## 1.—INSPECTION.

Premises.	Number of		
	Inspections.	Written Notices.	Prosecutions.
Factories .. .. .	710	244	..
(Including Factory Laundries.)			
Workshops .. .. .	2,167	128	..
(Including Workshop Laundries.)			
Workplaces .. .. .	953	58	..
Total .. .. .	3,830†	430	..

## 2.—DEFECTS FOUND.

Particulars.	Number of Defects.			Number of Prosecutions.
	Found.	Remedied.	Referred to H.M. Inspector.	
<i>Nuisances under the Public Health Acts :—*</i>				
Want of cleanliness .. ..	92	93	..	..
Want of ventilation .. ..	7	10	..	..
Overcrowding .. .. .	..	..	..	..
Want of drainage of floors ..	..	..	..	..
Other nuisances .. .. .	698	695	..	..
Sanitary accom- modation. { insufficient ..	27	21	..	..
{ unsuitable or defective..	174	154	..	..
Sec. 22 in force. { not separate for sexes ..	29	26	..	..
<i>Offences under the Factory and Workshop Act :—</i>				
Illegal occupation of underground bakehouse (S. 101) .. ..	..	..	..	..
Breach of special sanitary require- ments for bakehouses (SS. 97 to 100) .. .. .	25	23	..	..
Other offences .. .. .	..	..	..	..
Total .. .. .	1,052	1,022	..	..

\* Including those specified in Sections 2, 3, 7, and 8, of the Factory Act as remediable under the Public Health Acts.

† Exclusive of 3,992 visits to 631 bakehouses by ward inspectors, see page 222.

## 3, 4, 5.—OTHER MATTERS.

Homework :—	Number of		
	Lists.	Outworkers.	
<i>List of Outworkers (S. 107) :—</i>		C.	W.
(No homeworkers on our register except amongst those engaged in making wearing apparel)	.. .. .	..	..
Lists received twice in the year .. .. .	336	555	712
„ once in the year .. .. .	33	38	77
Addresses of received from other Authorities .. .. .	122		
outworkers / forwarded to other Authorities .. .. .	..		
Notices to occupiers as to keeping or sending lists .. .. .	446		
Prosecutions.. .. .	..		
Inspection of Homeworkers' premises .. .. .	885		
<i>Homework in unwholesome premises :—</i>			
Instances .. .. .	12		
Notices .. .. .	12		
Prosecutions.. .. .	..		
<i>Homework in infected premises :—</i>			
Instances .. .. .	20†		
Orders made (S. 110) .. .. .	20		
Prosecutions (SS. 109, 110) .. .. .	..		
[Infectious cases removed, disinfection carried out under ordinary powers.]			
<b>Workshops on the Register (S. 131) at the end of year :—</b>			
Ordinary (140 trades) .. .. .	1,132		
Domestic (4 trades) .. .. .	50		
Bakehouses on register as workshops .. .. .	300		
Do. domestic .. .. .	331		
<b>Total number of workshops on Register .. .. .</b>	<b>1,813</b>		
<b>Matters notified to H.M. Inspectors of Factories :—</b>			
Failure to affix Abstract of the Factory and Workshop Act (S. 133) .. .. .	43		
Action taken in matters referred by H.M. Inspectors as remediable under the Public Health Acts, but not under the Factory Act (S. 5) {	Notified by H.M. Inspector ..		
	Reports (of action taken) sent to H.M. Inspectors..		
Other .. .. .	73		
	..		
<b>Underground Bakehouses (S. 101) :—</b>			
Certificates granted during the year .. .. .	..		
In use at the end of 1929 .. .. .	27		

† 3 Diphtheria and 17 Scarlet Fever patients.

The above table is that required by the Home Office and represents work done by the male workshops inspectors and by the women inspectors.

## BAKEHOUSES.

WARD.	OVERGROUND.			UNDERGROUND.			Total visits to all.
	Em- ployees beyond family.	Work- shop bake- houses.	Domestic bake- houses.	Em- ployees beyond family.	Work- shop bake- houses.	Domestic bake- houses.	
Central .. ..	123	in 18	3	1	in 1	2	243
North .. ..	83	„ 32	11	3	„ 2	2	125
North-East .. ..	28	„ 17	38	2	„ 1	..	243
*New Ward .. ..	21	„ 13	2	..	..	..	172
East .. ..	50	„ 28	19	..	..	..	427
South .. ..	8	„ 4	19	2	„ 1	..	259
East Hunslet .. ..	14	„ 7	31	5	„ 2	..	220
West Hunslet .. ..	18	„ 17	32	3	„ 2	..	287
Holbeck .. ..	191	„ 13	25	..	..	..	224
Mill Hill .. ..	47	„ 12	9	..	..	..	161
West .. ..	36	„ 17	19	..	..	..	141
North-West .. ..	116	„ 29	18	17	in 5	1	148
Brunswick .. ..	46	„ 13	7	3	„ 1	..	199
New Wortley .. ..	9	„ 3	15	..	..	..	79
Armley & Wortley .. ..	26	„ 16	24	..	..	..	328
Bramley .. ..	21	„ 16	15	..	..	..	208
Headingley .. ..	58	„ 25	37	9	in 5	2	528
Totals.. ..	895	in 280	324	45	in 20	7	3,992

\* Roundhay, Seacroft, Shadwell, Crossgates and Templenewsam.

These visits made by Ward Inspectors only. This work is included in the figures given in table on page 222.

**Rag Flock Acts, 1911 and 1928.**—During the year 26 visits were made to premises occupied by persons engaged in the manufacture or use of rag flock. Eight samples were taken and submitted for analysis. Four of these were found to comply with the legal standard. In one case a conviction was recorded against the person in whose possession the flock was found. With regard to the remaining three samples it was decided by the City Analyst that the flocks in question could not be considered as rag flock within the meaning of the Act. These flocks had been taken from a broker in the city who had purchased old beds from salerooms and other sources. The ticks of the beds were in a filthy condition and the flocks themselves proved on examination to be highly charged with chlorine. The method adopted by the broker was to empty the ticks, pass the flocks through a crude dust extracting machine and refill, if necessary, the flocks into new ticks. The beds were then offered for sale. It is to be regretted that such flock cannot be dealt with under the Rag Flock Acts.

## Smoke Abatement.

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In my last report I mentioned that a byelaw made in pursuance of Section 2 of the Public Health (Smoke Abatement) Act, 1926, had come into operation. This new Byelaw prescribes that the emission of black smoke for a period of three minutes in the aggregate within any continuous period of 30 minutes from any building other than a private dwelling-house shall until the contrary is proved be presumed to be a nuisance.

The old standard in Leeds was three minutes in the hour so that the new byelaw gives a very substantial concession. It is very disappointing, therefore, to find in spite of this concession that, as compared with the previous year, there was an increase in the number of breaches of the byelaw by manufacturers.

An examination of the table on page 243 discloses that the average duration of dense smoke per observation increased from 28 seconds in 1928 to 45 seconds in 1929 and that the number of chimneys found offending against the byelaw increased from 38 to 77. The percentage of chimneys to observations found offending in 1929 was 2·3, as compared with 1·1 in 1928 and 1·6 for the average of the previous five years. In extenuation it may be said that the manufacturer has had an anxious year beset with difficulties on all hands not the least of his anxieties having been to cut down costs and keep his works running. To do this he has bought the cheapest type of fuel and burned it in a furnace obsolete or badly in need of overhaul or repair. The result has been "smoke"—no other result was possible under the circumstances. He has been warned and doubtless has tried to mend his ways but lack of capital has prevented him undertaking the improvements to his plant requisite to obtain good combustion and no smoke.

Progress in smoke abatement is painfully slow. There are plenty of people in Leeds who affect to believe in a pure atmosphere



but do nothing to bring this ideal nearer realisation. They pay lip service to the cause but continue to burn raw coal in their homes, offices and factories and to darken the skies with smoke. What is needed is a public conscience alive to the mischief caused by smoke and to the need for clean air. When such a conscience has been created then we shall have no further need for coercive measures to make men do what they know to be right and what is their plain duty as citizens.

*West Riding of Yorkshire Regional Smoke Abatement Committee.*—The attention of the Committee during the year has been directed to many subjects in connection with Smoke Abatement. Amongst these were :—

The setting up of Examination Board and the formulation of regulations in connection with the holding of examinations for stokers.

The increase of the available supplies of Low Temperature fuel in the area for domestic use.

The adoption of byelaws under Section 2 of the Public Health (Smoke Abatement) Act, 1926, by all constituent Local Authorities.

The collection of Meteorological data with the object of ascertaining the relative amounts of sunshine and smoke in the various areas of the constituent authorities.

An Examination Board representing the Regional Committee, the Local Technical Schools and Colleges, the Leeds University, and the Boiler Engineers, was established during the year and has been assiduously engaged in formulating a syllabus of lectures suitable for stokers to be given in the various technical schools and colleges throughout the area. The syllabus has now been completed and received the approval of the principal education bodies in the area, and in future, beginning with the next winter session, it will be the basis on which all courses of lectures will be modelled.

The limited amount of smokeless fuel on the market and the uncertainty of supplies have caused the Committee some concern, and they have taken steps to remedy this unsatisfactory state of affairs. A special resolution was drafted dealing with the matter and sent to the Minister of Health and all Local Authorities in the area. The former has now the matter in hand and is waiting the report of an experimental plant for the manufacture of low temperature coke by the South Metropolitan Gas Light and Coke Co. at Richmond, after which more may be heard on the subject.

Quite a number of Local Authorities have increased their supplies of coke suitable for domestic use, so that whilst the present position with regard to the available supplies of smokeless fuel is far from satisfactory it is certainly better than it was this time last year.

The fact that only 39 of the 92 authorities constituting the area covered by the West Riding of Yorkshire Regional Smoke Abatement Committee have taken advantage of the powers conferred upon them by Section 2 of the Public Health (Smoke Abatement) Act of 1926 to make byelaws governing the emission of smoke has been a source of great disappointment to the Committee. If the Act is to be a success and to have the results expected of it uniformity of administration throughout the area is essential. This can only be obtained if all the constituent authorities agree to work to the same standard which again is only possible by adopting a byelaw based on the same model.

With the object of comparing the rainfall, hours of bright sunshine and soot deposit in the various parts of the West Riding coming within the influence of the Committee it was decided to ask those authorities which possess such records to allow the Committee to have them in order that they might be tabulated and set out in a monthly report which would be available for the Committee at each meeting and copies of which if necessary might be circulated to the contributing authorities.

*Smoke Gauges.*—The table on page 244 shows the monthly deposits of soot and ash in English tons per square mile for the years 1928 and 1929. Decreases were recorded at the Headingley, Park Square and York Road Smoke Stations and a slight increase at the Hunslet Station. The figures for the Templenewsam Station are not exactly comparable as this Station was only opened in June, 1928 and for two months in 1929 the gauges were out of order.

*Sunlight and Daylight Gauges.*—Towards the end of 1928 gauges for the measurement of daylight were fixed at two stations, namely, Headingley and Park Square. These gauges consist of a solution of potassium iodide in dilute sulphuric acid. When exposed to light free iodine is liberated, the quantity of free iodine in solution being an index of the amount of daylight. As the gauges have now been in operation for a complete year it is possible to give the figures for 1929, and these are set out in the table on page 242. It may be noted that the figure for Headingley was 6·71 as compared with 5·62 for Park Square.

The amount of actinic light in the atmosphere continued to be recorded by the acetone methylene blue method at four of the smoke stations as well as at Middleton. The results are set out in the table on page 245. It will be noticed that once again there was a reduction in the amount of actinic light recorded at each of the Stations. This seems strange in a year which was unusually sunny and dry but the explanation is that though dry the first and second quarters of the year were cold and dull and that during the hot days of the Summer and Autumn there was a good deal of ground haze. Coupled with these influences was the smoky condition of the atmosphere which during the first half of the year was more pronounced than usual.

TABLE SHOWING AMOUNT OF DAYLIGHT FOR THE YEAR 1929.

(Value expressed as Milligrams of Iodine liberated by the action of daylight on a mixture of dilute Sulphuric Acid and Potassium Iodide Solution).

Month.					Headingley.	Park Square.
January	..	..	..	..	3.48	2.2
February	..	..	..	..	4.53	3.52
March	..	..	..	..	6.12	5.09
April	..	..	..	..	9.24	7.97
May	..	..	..	..	9.98	8.73
June	..	..	..	..	10.39	8.88
July	..	..	..	..	9.67	8.88
August	..	..	..	..	8.16	7.12
September	..	..	..	..	7.27	6.21
October	..	..	..	..	5.85	4.66
November	..	..	..	..	3.32	2.32
December	..	..	..	..	2.49	1.84
YEAR (Average)	..	..	..	..	6.71	5.62

The work of the smoke inspectors is given in detail in the subjoined table.

	(1)	1929	1928
Furnaces inspected .. .. .		1,275	1,851
Observation of chimneys .. ..		3,384	3,492
Number of minutes dense smoke .. ..		2,546	1,633
Average duration of dense smoke per observation .. .. .		0 mins. 45 secs.	0 mins. 28 secs.
Number of chimneys offending against the regulations .. .. .		77	38
Smoke prevention appliances adapted to furnaces .. .. .		14	12
Furnaces altered or reconstructed .. ..		50	100
Firms who have adopted smokeless fuel ..		10	41
Chimneys newly erected .. ..		—	10
Furnaces in connection with new chimneys ..		—	10
Notices served on manufacturers .. ..		74	33
Prosecutions .. .. .		—	1

# SMOKE OBSERVATIONS, 1922-1929.

(2)

Year.	Observations of Chimneys.	No. of Chimneys found offending against the regulations.	Percentage to observations.
1922	3,853	275	7.1
1923	6,007	202	3.3
1924	6,773	113	1.7
1925	4,373	92	2.1
1926	4,114	63	1.5
1927	4,185	58	1.4
1928	3,492	38	1.1
1929	3,384	77	2.3

SOOT AND ASH GAUGES.  
MONTHLY DEPOSIT IN ENGLISH TONS PER SQUARE MILE.  
YEARS 1928 AND 1929.

Period.	STATIONS.									
	Headingley.		Park Square.		York Road.		Hunslet.		Temple Newsam	
	1928.	1929.	1928.	1929.	1928.	1929.	1928.	1929.	1928.	1929.
January ..	14.4	9.4	39.0	28.6	31.7	22.7	28.5	26.4	..	6.4
February ..	11.5	8.7	28.7	14.3	22.0	17.7	26.2	9.2	..	*
March ..	18.4	7.9	22.7	25.9	26.4	22.5	34.5	32.0	..	5.9
April ..	11.6	§	25.9	23.0	24.4	29.9	35.5	34.3	..	9.2
May ..	13.4	8.9	28.9	26.6	27.1	26.1	37.1	19.7	..	7.2
June ..	11.1	8.2	31.7	23.3	32.9	20.7	26.6	33.3	10.6	7.4
July ..	11.0	11.5	14.6	25.6	27.8	28.4	16.8	34.6	8.9	9.5
August ..	13.7	9.7	37.6	27.7	29.5	22.5	17.6	20.7	11.8	5.6
September ..	4.6	6.7	16.6	25.3	13.9	27.9	15.7	24.3	4.8	7.4
October ..	12.1	9.5	32.5	34.1	28.2	26.9	20.0	26.1	9.0	11.0
November ..	11.0	12.8	49.2	41.2	31.0	25.6	26.1	22.5	9.5	10.8
December ..	9.1	15.1	31.1	49.4	24.3	31.7	19.7	22.3	6.6	†
Year ..	141.9	108.4 (11 months)	358.5	345.0	319.2	302.6	304.3	305.4	61.2 (7 months)	80.4 (10 months)

\* Gauge broken by frost.

§ Gauge tampered with.

† Gauge overturned by gale.

TABLE SHOWING THE AVERAGE DAILY AMOUNT OF ACTINIC LIGHT REGISTERED DURING THE YEARS 1928 AND 1929, BY THE ACETONE METHYLENE BLUE METHOD.

Period.	STATIONS.									
	Headingley.		Park Square.		York Road.		Hunslet.		Middleton.	
	1928.	1929.	1928.	1929.	1928.	1929.	1928.	1929.	1928.	1929.
January ..	1.00	0.75	0.63	0.39	0.60	0.40	0.63	0.55	0.83	0.40
February ..	1.18	0.75	0.68	0.46	0.64	0.49	0.72	0.52	0.87	0.45
March ..	1.68	1.22	1.13	0.94	0.96	0.94	1.18	1.23	1.24	1.06
April ..	2.52	1.03	1.90	0.75	1.76	0.77	1.91	0.79	2.02	0.75
May ..	2.90	0.99	2.18	0.98	2.12	0.95	2.50	1.06	2.30	0.85
June ..	3.57	2.63	2.73	2.46	2.46	2.32	2.72	2.96	2.86	2.86
July ..	4.80	3.02	4.00	2.53	3.75	2.44	3.86	2.97	3.88	2.60
August ..	4.40	3.17	3.28	2.80	3.31	2.54	4.14	3.29	3.56	2.86
September ..	3.24	2.61	2.37	2.16	2.67	2.28	3.23	2.39	2.42	2.50
October ..	2.02	1.50	1.38	1.42	1.21	1.43	1.77	1.48	1.56	1.51
November ..	1.12	1.39	0.72	1.34	0.69	1.38	1.03	1.50	0.87	1.52
December ..	1.04	1.41	0.63	1.31	0.53	1.27	0.68	1.44	0.62	1.40
Year (average)	2.45	1.71	1.78	1.46	1.72	1.43	2.02	1.68	1.89	1.56

NOTE.	Number of Daily Observations	—	Headingley 365;	Park Square 356;	York Road 365;	Hunslet 365;	Middleton 349.
1928.	"	"	Headingley 358; <td>Park Square 361; <th>York Road 365;</th> <th>Hunslet 352;</th> <th>Middleton 360.</th> </td>	Park Square 361; <th>York Road 365;</th> <th>Hunslet 352;</th> <th>Middleton 360.</th>	York Road 365;	Hunslet 352;	Middleton 360.
1929.	"	"	"	"	"	"	"



## Housing.

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The housing situation in Leeds remains very much the same as when my last report was issued. The building of new houses has continued but if the lists of applicants in the hands of the City Engineer is any criterion the demand is still far from being satisfied. It should be noted however that the demand is for small houses of the working-class type. As far as the larger houses of the villa type are concerned it is probable that saturation point has been reached and with trade prospects as they are and the prevailing tendency for firms to go South, there is a danger if building continues of a surplus beyond the requirements of the population resulting. It is however in the type of dwelling-house suitable for the worker with limited means that the shortage is most acute. The rental demanded for the average house on the Corporation Estates is beyond his pocket ; he wants a house with about the same floor space but at a much smaller rental. How to do this on an economic basis is the problem. There is a solution and that is to adopt the continental system of building large blocks of flats around open squares with heating, laundry and other services in common, not on the outskirts of the city which incurs heavy transport charges, but on open ground near the centre and readily accessible to the factories and other places of employment. It is not a solution which will commend itself to the average Yorkshireman, but as far as one can see there is no satisfactory alternative. Unless some such scheme is adopted we shall be still struggling with this problem of the housing of the poorer section of the working classes and particularly that of the slum dweller at the close of the century and even then not be within sight of a solution.

Already ten years have elapsed since the housing survey was made which indicated the areas in the city requiring immediate clearance or improvement and in that time practically nothing has been done. The nett result of all our efforts in that period has been the clearance of one small area of 49 houses and the partial clearance of another larger area. Obviously things must move faster than that if the children of the slums of to-day are to receive any benefit from improved housing in their life time. Nor can the Public Health make any real advance when conditions in the

poorer districts of the city remain as they are. Much is expected of the long talked of Slum Clearance Bill now before Parliament but even when that becomes law unless greater energy is shown in handling the situation it may be years before any appreciable progress is made.

Overcrowding continues to exist in certain quarters of the city unmitigated and unrelieved. One of the results of this overcrowding, and of the housing shortage generally, is the somewhat alarming increase in the number of farmed-out houses or as they are more commonly termed houses-let-in-lodgings. These places—human rabbit warrens many of them are—exist all over the city in the working-class areas and sometimes even in the better class districts. Unless they are registered, and registration is a purely optional matter, we have no means of knowing where they are. Conditions in some of these houses are deplorable in the extreme, a menace both to health and morals. The law with regard to their supervision and control is unsatisfactory and in need of tightening up. Meanwhile, being a highly profitable business for the landlords, the number of these houses increases yearly.

Since the War the Corporation have erected 7,066 houses—3,329 under Assisted Housing Schemes, 3,281 under the 1923-4 Acts, and 456 for re-housing purposes. Amongst these are included 524 cottage flats—a type of house which has been very much in favour during the last two years. As mentioned in a previous report, the cottage flat is an attempt to meet the needs of the poorer paid worker who can only afford a weekly rental, inclusive of rates, of 8/- to 9/-. The demand for these flats is growing every day, which proves that they are fulfilling the purpose for which they were intended. Unfortunately, the majority of them have been built on estates a considerable distance from the centre of the city which, with the additional cost of transport involved, makes them prohibitive for that very large class of tenant now occupying houses in the slum areas at an inclusive weekly rental of 4/6 to 5/6.

I append herewith a sketch plan of the city showing the number and situation of these housing estates, and how the city has almost been completely ringed round by them. This same plan will place on record the existing Municipal Wards before the pending alterations.

**Number of Houses.**—The total number of houses in the city on December 31st, 1929, was 127,492, made up approximately of 77,367 back-to-back houses, and 50,125 through houses.

*Empty Houses.*—There were approximately at the same date 1,065 vacant houses, the majority of the large residential type.

*New Houses.*—The number of new houses completed during the year was 2,711, of which 2,129 were working-class houses, and the remaining 582 of a larger type.

TABLE SHEWING THE NUMBER OF HOUSES ERECTED IN LEEDS DURING THE LAST TWENTY-EIGHT YEARS, ENDED 31st MARCH, 1930.

Year.	By Private Enterprise.	By Leeds City Council.	Total.
1903 .. ..	2,572	..	2,572
1904 .. ..	2,923	..	2,923
1905 .. ..	2,442	..	2,442
1906 .. ..	1,748	..	1,748
1907 .. ..	1,135	..	1,135
1908 .. ..	919	..	919
1909 .. ..	836	..	836
1910 .. ..	584	..	584
1911 .. ..	505	..	505
1912 .. ..	350	..	350
1913 .. ..	220	..	220
1914 .. ..	287	..	287
1915 .. ..	228	..	228
1916 .. ..	146	..	146
1917 .. ..	51	..	51
1918 .. ..	5	..	5
1919 .. ..	4	..	4
1920 .. ..	7	..	7
1921 .. ..	104	92	196
1922 .. ..	118	930	1,048
1923 .. ..	108	1,810	1,918
1924 .. ..	354	264	618
1925 .. ..	593	358	951
1926 .. ..	1,044	332	1,376
1927 .. ..	1,522	856	2,378
1928 .. ..	1,553	830	2,383
1929 .. ..	1,254	618	1,872
1930 .. ..	1,696	976	2,672
Totals .. ..	23,308	7,066	30,374

SKETCH PLAN SHOWING CITY BOUNDARY, MUNICIPAL WARDS AND  
SITUATION OF CORPORATION HOUSING ESTATES.



— WARDS. —

- |                  |                       |
|------------------|-----------------------|
| 1. CENTRAL.      | 9. HOLBECK.           |
| 2. NORTH.        | 10. MILL HILL.        |
| 3. NORTH EAST.   | 11. WEST.             |
| 4. NEW WARD.     | 12. NORTH WEST.       |
| 5. EAST.         | 13. BRUNSWICK.        |
| 6. SOUTH         | 14. NEW WORTLEY.      |
| 7. EAST HUNSLET. | 15. ARMLEY & WORTLEY. |
| 8. WEST HUNSLET. | 16. BRAMLEY.          |
|                  | 17. HEADINGLEY.       |

THE RED SPOTS SHOW NUMBER AND DISTRIBUTION  
OF THE CORPORATION HOUSING ESTATES. (17.)



**Housing Shortage.**—The number of applications for Corporation houses still on the register on December 31st, was 10,506.

**Overcrowding.**—The number of notices served by the Department for overcrowding during the year was 236, of which 53 were abated. Notices are served in the worst cases only, so the above figure must not be taken as an index of the extent to which overcrowding exists in the city.

It is still very difficult to deal with the cases of overcrowding which come to the notice of the Department, but in an attempt to ease the position an arrangement has been arrived at between the Health and Improvements Committees whereby a percentage of the new Corporation houses will be reserved to meet the most aggravated of these cases. The percentage is not large (5 per cent.) and will not do more than enable us to deal with a few of the known cases, but if even a few cases can be re-housed to that extent the Public Health will be benefited.

**Unfit Houses.**—The number of houses inspected and found to be totally unfit for human habitation was 159 as against 83 in the previous year, whilst 1,050 were found to be urgently in need of repair.

In response to notices served 870 houses were repaired and rendered fit.

In addition 28,080 houses were found to be defective in some respect or other, and were repaired.

Closing orders were made in respect of 12 houses, whilst 42 houses were demolished. It is difficult to make progress with this work, because of the difficulty of providing suitable alternative accommodation. Some of the tenants are of a type incapable of appreciating or caring for a new house and have to be accommodated in old houses specially reserved and kept in repair for the purpose. The number of unfit houses in the city grows apace. They are mostly in small groups of ten to twenty and with the present housing shortage present a problem of increasing difficulty.

**Unhealthy Areas.**—Properties are now in process of being demolished in the West Street Unhealthy Area under the Order obtained in 1928, but the speed at which the work progresses is governed by the supply of new houses to accommodate the displaced tenants and as that is necessarily slow it will be some time yet before the area is cleared. As regards the other known Unhealthy Areas, until the new Housing Bill (No. 2) becomes law, it will not be possible to proceed further with them.



TABLE SHEWING THE TOTAL AMOUNT OF HOUSING WORK DONE  
BY THE LEEDS CITY COUNCIL TO 31st MARCH, 1930.

ASSISTED SCHEMES.

NAME OF ESTATE.	Sewers laid.  Length in yds.	Foads formed, pitched and ashed.  Length in yds.	No. of Houses for which Contracts have been signed.	No. of Houses upon which work has been com- menced.	No. of Houses completed included in previous column.
Hawksworth Wood ..	4,436	5,109	402	402	402
Wyther House ..	3,857	4,048	492	492	492
Meanwood .. ..	4,394	5,931	800	800	800
Crossgates .. ..	4,510	6,063	488	488	488
Middleton .. ..	4,239	5,477	697	697	697
Ivy House .. ..	Existing	Existing	46	46	46
Section 12/3 Houses	do.	do.	398	398	398
Demonstration Houses, Meanwood .. ..	included	above.	6	6	6
Totals	21,436	26,628	3,329	3,329	3,329

OTHER THAN ASSISTED SCHEMES  
(including 1923 and 1924 Acts).

Wyther House ..	1,058	1,595	184	184	184
Meanwood .. ..	3,387	3,761	584	572	488
Crossgates .. ..	included	in A.S.	176	176	176
Middleton .. ..	5,057	5,879	952	908	724
Hollin Park .. ..	2,647	2,396	345	345	345
York Road .. ..	6,090	7,358	1,182	1,182	1,182
Harehills .. ..	690	787	112	112	72
Hawksworth .. ..	639	541	162	162	162
Greenthorpe .. ..	1,161	1,290	216	216	212
Southfield .. ..	465	479	84	74	—
Dewsbury Road ..	1,066	1,080	120	90	—
Westfield .. ..	2,177	1,887	352	90	—
East End Park (pur- chased for re-housing)	Existing	..	192	192	192
Grand Totals ..	45,873	53,681	7,990	7,632	7,066

The above tables do not include the Halton Housing Estate, comprising 118 (Assisted Scheme) houses, and 22 (1923 Act) houses, taken over by the City Council, April 1st, 1928.

## HOUSING ACT, 1925.

Table showing the number of houses examined by the Medical Officer of Health as part of the general survey of the town during the year ending December 31st, 1929, and the numbers represented or otherwise dealt with, pursuant to the Housing Acts, with the corresponding figures for 1927 and 1928.

	1927.	1928.	1929.
Number of new houses erected during the year :—			
(a) Total including numbers given separately under (b)	2,815	1,731	2,711
(b) With State Assistance under the Housing Acts :			
(i) By the Local Authority .. .. .	971	544	594
(ii) By other bodies or persons .. .. .	1,520	715	1,535
1. <i>Unfit dwelling-houses.</i>			
Inspection—(1) Total number of dwelling-houses inspected for housing defects (under Public Health or Housing Acts) .. .. .	11,260	13,351	12,050
(2) Number of dwelling-houses which were inspected and recorded under the Housing (Inspection of District) Regulations, 1910, or the Housing Consolidated Regulations, 1925 .. .. .	402	515	1,159
(3) Number of dwelling-houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation .. .. .	125	83	159
(4) Number of dwelling-houses (exclusive of those referred to under the preceding sub-heading) found not to be in all respects reasonably fit for human habitation ..	367	433	1,050
2. <i>Remedy of Defects without Service of formal Notices.</i>			
Number of defective dwelling-houses rendered fit in consequence of informal action by the Local Authority or their Officers .. .. .	321	376	870
3. <i>Action under Statutory Powers.</i>			
A.—Proceedings under Section 3 of the Housing Act, 1925.			
(1) Number of dwelling houses in respect of which notices were served requiring repairs .. .. .	..	..	180
(2) Number of dwelling-houses which were rendered fit after service of formal notices :—			
(a) By owners .. .. .	267	382	166
(b) By Local Authority in default of owners .. .. .	..	..	..
(3) Number of dwelling-houses in respect of which Closing Orders became operative in pursuance of declarations by owners of intention to close .. .. .	2	10	..
B.—Proceedings under Public Health Acts.			
(1) Number of dwelling-houses in respect of which notices were served requiring defects to be remedied .. .. .	24,435	26,970	29,467
(2) Number of dwelling-houses in which defects were remedied :—			
(a) By owners .. .. .	24,507	25,736	28,080
(b) By Local Authority in default of owners .. .. .	..	..	..
C.—Proceedings under Sections 11, 14, and 15 of the Housing Act, 1925.			
(1) Number of representations made with a view to the making of Closing Orders .. .. .	9	44	12
(2) Number of dwelling-houses in respect of which Closing Orders were made .. .. .	9	41	12
(3) Number of dwelling-houses in respect of which Closing Orders were determined, the dwelling-houses having been rendered fit .. .. .	..	..	1
(4) Number of dwelling-houses in respect of which Demolition Orders were made .. .. .	9	1	42
(5) Number of dwelling-houses demolished in pursuance of Closing or Demolition Orders ..	3	11	42

# Health Education, and Propaganda.

BY

ARTHUR MASSEY, M.D., Ch.B., D.P.H., *Chief Assistant Medical  
Officer of Health.*

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To inform the public concerning health matters is a basic duty of any Public Health Department. It is clear that the intelligent co-operation of the average citizens is vitally necessary if preventive medicine is to achieve all it sets out to do. Such co-operation cannot be enlisted save by means of carefully planned propaganda. Health education work has gone on in Leeds throughout the year under review. Its results are difficult to assess, but there is no doubt that the general public are becoming more and more alive to the useful part they can take in the promotion of communal welfare.

*Health Week.*—The 1929 Health Week in Leeds was held from September 30th to October 6th, and was run on similar lines to those in previous years, viz. :—

A special speaker was engaged to give talks on health matters. He gave dinner-hour talks to the workpeople of certain of the largest factories in the city. Evening talks were arranged at such institutions as Working-Men's clubs, Y.M.C.A., Women's Guilds, and H.M. Prison. The doctors engaged on Maternity and Child Welfare work gave special health talks to the mothers attending the infant welfare centres. The various ministers of religion were asked to incorporate the subject of health in their sermons on the Sunday of Health Week, and to this request there was a ready response.

Posters and handbills were freely used. Special health slogans were posted in the Corporation trams and buses, and bookmarks bearing health slogans, were distributed in the 50,000 books issued from the Public Libraries during the week.

Lantern slides, bearing health slogans and advice, were shown at the various music-halls and theatres, whilst health propaganda films were shown at the leading cinemas.

There were no central exhibitions and no generally advertised lectures. It is thought that these are usually attended by the "converted." It is deemed more profitable to carry the propaganda to the people in their own haunts, rather than to rely on their enthusiasm to attend special central meetings.

*Wayside Pulpits.*—During the year three "wayside pulpits" were erected in South Leeds; these are additional to the three erected in 1928 in the centre of the city. The health slogans displayed are changed weekly and much public interest has centred on the scheme.

*"Better Health" Journal.*—Arrangements were completed early in the year for the introduction and distribution in the city of the periodical "Better Health," and the first monthly number was that of April, 1929. "Better Health" has since appeared each month and has contained both general and local health items. The monthly circulation of the journal is at present 10,000 and the public has proved keenly receptive.

*Leeds Committee for Social Hygiene.*—This voluntary committee is the Leeds Branch of the British Social Hygiene Council, and particulars of its membership and scope were given in last year's Annual Report. The Committee met on seven occasions during the year under review, and, of its activities, the arrangement of a series of Parents' Conferences in certain of the Leeds schools is perhaps the most noteworthy.

*Parents' Conferences.*—Favoured by the co-operation of Dr. James Graham, the Director of Education, eight conferences were held on November 18th, 19th, 20th, 21st, 22nd, 25th, 28th, and 29th respectively. As last year, the meetings were collective, consisting of parents from groups of schools, and were arranged at the below mentioned centres, viz. :—

Monday, Nov. 18th	.. Armley Council School.
Tuesday, Nov. 19th	.. Stanningley Council School.
Wednesday, Nov. 20th	Whitehall Road Council School.
Thursday, Nov. 21st	.. Hunslet Lane Council School.
Friday, Nov. 22nd	.. Kirkstall Road Council School.
Monday, Nov. 25th	.. Meanwood Road Council School.
Thursday, Nov. 28th	.. Primrose Hill Council School.
Friday, Nov. 29th	.. Beeston Hill Council School.

At each conference the film "The Gift of Life" was shown, followed by a health lecture and wound up by a general discussion. The total attendances numbered 708.

The total number of addresses on health subjects given under the auspices of the Health Department and Leeds Committee for Social Hygiene during the year was 43.

## Staff Changes.

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A. A. D. La Touche, Ch.B., F.R.C.S., appointed Assistant Venereal Diseases Medical Officer, March, 1929, in place of E. T. Ruston, M.B., Ch.B., resigned.

A. R. Best, appointed Accountant, March 1929, in place of J. W. Ridsdale, retired on superannuation after 50 years' service.

J. F. Russell, M.B., Ch.B., appointed Assistant Resident Medical Officer at Killingbeck Sanatorium for 12 months, May, 1929.

W. M. Mumby, Ch.M., M.B., Ch.B., appointed Consultant Otologist at Seacroft Hospital for 12 months, June, 1929.

D. W. E. BurrIDGE, M.B., Ch.B., appointed Second Assistant Resident Medical Officer at Seacroft Hospital for six months, September, 1929.

A. M. Claye, M.D., appointed on panel of Consultant Gynæcologists in place of E. O. Croft, M.D.

A. B. Williamson, M.A., B.Sc., M.D., Ch.B., L.R.C.P., D.P.H., appointed Chief Assistant Medical Officer of Health, December, 1929, in place of A. Massey, M.D., Ch.B., D.P.H., resigned November.

# MINISTRY OF HEALTH TABLES.

## TABLE I.

VITAL STATISTICS OF WHOLE DISTRICT DURING 1929 AND PREVIOUS YEARS.

YEAR.	Population estimated to Middle of each Year.	BIRTHS.		TOTAL DEATHS REGISTERED IN THE DISTRICT.		TRANSFERABLE DEATHS.		NETT DEATHS BELONGING TO THE DISTRICT.				
		Un-corrected Number.	Nett.		Number.	Rate.	Of Non-residents registered in the District.	Of Residents not registered in the District.	Under 1 Year of Age.		At all Ages.	
			Number.	Rate.					Number.	Rate per 1,000 Net Births.	Number.	Rate.
1	2	3	4	5	6	7	8	9	10	11	12	13
1919	430,834	7,837	7,564	17.6	7,099	16.5	401	294	899	119	6,992	16.2
1920	448,913	11,587	11,229	25.0	6,725	15.0	417	283	1,232	110	6,591	14.7
1921	465,500	10,427	10,144	21.8	6,424	13.8	408	269	997	98	6,285	13.5
1922	466,700	9,500	9,253	19.8	6,589	14.1	425	315	935	101	6,479	13.9
1923	469,900	8,991	8,684	18.5	6,128	13.0	451	309	773	89	5,986	12.7
1924	471,600	8,862	8,558	18.1	6,824	14.5	435	358	921	108	6,747	14.3
1925	472,900	8,518	8,180	17.3	6,286	13.3	570	321	748	91	6,037	12.8
1926	473,400	8,437	8,065	17.0	6,285	13.3	531	308	748	93	6,062	12.8
1927	477,600	8,075	7,790	16.3	6,438	13.5	578	338	629	81	6,198	13.0
1928	474,800*	7,978	7,665	16.1	6,419	13.5	545	259	606	79	6,133	12.9
1929	478,500	7,725	7,426	15.5	8,289	17.3	657	266	722	97	7,898	16.5

Total population at all ages at the 1921 Census 458,232

Area of District in } 38,106  
acres (land and  
inland water)

Do. adjusted for the 1921 Census 465,500

\* Population adjusted to allow for change in boundary during the year. The mid-year population after the change is 476,500.



# APPENDIX 2.

TABLE II. CASES OF INFECTIOUS DISEASES NOTIFIED DURING THE CALENDAR YEAR 1929.

NOTIFIABLE DISEASE.	NUMBER OF CASES NOTIFIED.						TOTAL CASES NOTIFIED IN EACH LOCALITY. (e.g. Parish or Ward) of the District.												Total Cases re- moved to Hos- pital.						
	At all Ages.	At Ages—Years.					Central.	North.	North-East.	New Ward.	East.	South.	East Hunstn.	West Hunstn.	Holbeck.	Mill Hill.	West.	North-West.		Brunswick.	New Wortley.	Armley and Wortley.	Bramley.	Headingley.	
		1 and under 15 years.	5 and under 15 years.	15 and under 25 years.	25 and under 45 years.	45 and under 65 years.																			65 and up- wards.
Small-pox ..	24	..	..	5	4	3	2	..	4	203	68	2	..	..	3	1	..	6	9	..	1	1	1	..	24
Chicken-pox ..	2,545	112	846	1,535	40	12	..	39	285	203	..	..	..	314	227	163	8	67	166	104	118	149	99	317	21
Cholera (C) Plague (P) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Diphtheria (including Mem- branous croup) ..	536	9	109	286	77	50	4	13	57	36	11	36	16	63	61	45	6	23	40	33	6	11	37	42	505
Erysipelas ..	349	7	10	18	29	97	34	12	23	38	16	30	4	23	19	22	23	15	48	16	12	22	21	35	133
Scarlet Fever ..	3,473	11	672	2,019	524	225	..	104	383	364	174	341	124	264	200	192	65	109	181	178	110	211	153	320	3,035
Measles ..	9,486	467	4,794	4,067	1,035	50	5	156	951	710	318	1,026	251	1,153	446	305	71	489	350	273	392	1,023	625	947	166
German Measles ..	1,256	45	310	809	67	23	2	19	107	100	16	34	40	374	149	69	3	23	51	21	13	36	68	133	40
Typhus Fever ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Enteric Fever ..	14	..	1	3	1	7	2	2	3	1	..	1	2	..	1	..	1	..	1	..	1	..	..	1	6
Relapsing fever (R) Continued fever (C) ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1	2	5	1	2	2	3	19
Puerperal Fever ..	31	..	..	..	7	24	..	..	1	2	1	1	2	..	3	5	..	..	..	..	..	..	..	..	..
Puerperal Pyrexia ..	66	..	..	..	18	46	2	1	6	4	1	6	3	9	3	4	..	7	2	3	1	8	5	3	14
Cerebro-Spinal Meningitis ..	9	2	5	1	1	..	..	..	1	1	1	1	..	1	..	..	1	1	2	1	..	..	1	..	1
Polionymelitis ..	3	..	1	1	..	1	..	..	..	..	..	..	..	..	1	1	..	2	2	1	1	4	4	2	..
Ophthalmia Neonatorum ..	38	38	..	..	..	..	..	..	5	1	..	7	1	5	..	3	..	2	2	1	1	4	4	2	..
Encephalitis Lethargica ..	7	..	..	1	1	1	3	..	1	1	1	1	..	1	2	..	..	1	..	..	..	..	..	..	1
Malaria ..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dysentery ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Other Diseases ..	128	25	33	14	17	59	9	6	6	7	26	12	2	3	11	8	5	4	8	10	2	4	5	9	128
Pulmonary Tuberculosis ..	743	..	20	88	188	268	162	17	57	57	18	77	29	83	56	43	7	44	51	43	28	48	36	54	569
Other Forms of Tuberculosis ..	156	..	4	47	31	19	8	3	17	14	7	15	3	23	8	10	2	7	14	6	10	8	3	42	3
Pneumonia (Acute primary) ..	1,351	107	376	190	153	210	200	26	218	80	25	132	49	179	59	89	9	44	76	64	56	112	43	90	37
Do. (Acute Influenzal) ..	437	8	43	34	49	115	120	68	11	84	63	8	34	13	30	34	3	14	25	10	20	23	13	28	..
TOTALS ..	20,653	835	7,267	9,118	1,310	1,181	703	405	2,208	1,681	694	1,939	571	2,531	1,282	979	204	853	998	768	1,664	1,121	1,987	1,474	7,43

In addition to the 3,035 Scarlet Fever cases removed, 40 cases notified in 1928, were removed in 1929.

Isolation Hospital or Hospitals, Sanatoria, &c. 1—City Fever Hospital, Scarcroft and Killingbeck.

In addition to the 569 Pulmonary Tuberculosis and 42 Tuberculosis (Other Forms), removed, 71 Pulmonary Tuberculosis and 24 Tuberculosis (Other Forms), were admitted to "The Hollies," Westwood Lane, and 105 Pulmonary Tuberculosis and 5 Tuberculosis (Other Forms), were admitted to Gateforth Sanatorium which is outside the City. They are included in the 743 and 156 notified.

## APPENDIX 3.

CAUSES OF, AND AGES AT DEATH DURING THE CALENDAR YEAR 1929.

REGISTRAR GENERAL'S FIGURES.

CAUSES OF DEATH.	Sex.	All Ages.	0-	1-	2-	5-	15-	25-	45-	65-	75-
All Causes .. ..	M.	3,996	446	149	131	90	178	424	1,181	880	517
	F.	3,900	276	142	126	70	171	427	933	863	892
1. Enteric Fever .. ..	M.	..	..	..	..	1	..	..	..	..	..
	F.	3	..	..	..	..	2	..	..	..	..
2. Small-pox .. ..	M.	..	..	..	..	..	..	..	..	..	..
	F.	..	..	..	..	..	..	..	..	..	..
3. Measles .. ..	M.	56	9	21	23	3	..	..	..	..	..
	F.	46	7	19	16	4	..	..	..	..	..
4. Scarlet Fever .. ..	M.	14	1	1	7	4	1	..	..	..	..
	F.	15	..	..	6	3	5	1	..	..	..
5. Whooping Cough .. ..	M.	51	16	23	10	2	..	..	..	..	..
	F.	59	19	18	22	..	..	..	..	..	..
6. Diphtheria .. ..	M.	13	..	1	1	10	1	..	..	..	..
	F.	12	2	..	5	4	..	..	1	..	..
7. Influenza .. ..	M.	273	8	4	12	6	13	50	84	62	34
	F.	300	..	4	4	1	8	20	84	90	89
8. Encephalitis Lethargica	M.	1	..	..	..	..	..	1	..	..	..
	F.	9	..	..	1	..	..	4	3	1	..
9. Meningococcal	M.	10	3	2	4	..	..	..	1	..	..
Meningitis	F.	4	1	2	1	..	..	..	..	..	..
10. Tuberculosis of	M.	309	2	2	..	5	59	111	115	15	..
respiratory system	F.	204	..	2	1	2	74	85	32	7	1
11. Other Tuberculous	M.	55	4	7	13	8	7	8	8	..	..
Diseases	F.	57	3	8	17	8	6	8	6	1	..
12. Cancer, malignant	M.	303	..	..	..	..	2	17	146	108	30
disease .. ..	F.	388	1	..	..	..	2	55	169	103	58
13. Rheumatic Fever .. ..	M.	9	1	..	..	4	4	..	..	..	..
	F.	15	..	..	2	3	4	2	4	..	..
14. Diabetes .. ..	M.	31	..	..	..	..	2	5	11	10	3
	F.	42	..	..	..	..	2	3	16	17	4
15. Cerebral Hæmorrhage,	M.	171	..	..	..	..	1	6	52	79	33
&c.	F.	211	..	..	..	..	1	8	69	77	56
16. Heart Disease .. ..	M.	618	1	1	1	5	9	39	231	210	121
	F.	772	..	1	..	12	16	60	221	232	230
17. Arterio-sclerosis .. ..	M.	284	..	..	..	..	..	1	54	125	104
	F.	221	..	..	..	..	..	..	28	78	115
18. Bronchitis .. ..	M.	266	18	3	4	1	4	19	81	64	72
	F.	312	11	2	1	..	..	9	60	86	143
19. Pneumonia (all forms)	M.	471	91	62	29	11	23	60	114	64	17
	F.	359	53	56	27	12	15	43	75	39	39
20. Other respiratory	M.	38	..	..	2	1	6	4	16	8	1
diseases	F.	31	..	2	1	..	1	2	6	13	6
21. Ulcer of stomach or	M.	46	..	..	..	..	4	11	29	2	..
duodenum	F.	7	..	..	..	..	..	3	2	1	1
22. Diarrhœa, &c. .. ..	M.	48	33	7	2	..	..	1	2	3	..
	F.	58	34	7	3	1	2	3	2	..	6
23. Appendicitis and	M.	16	..	..	1	2	5	3	4	1	..
Typhlitis	F.	9	..	..	1	2	..	2	1	2	1
24. Cirrhosis of Liver .. ..	M.	9	..	..	..	..	..	..	6	3	..
	F.	6	..	..	..	..	1	..	1	3	1
25. Acute and Chronic	M.	91	..	..	1	3	2	8	46	19	12
Nephritis	F.	100	..	1	..	2	4	18	37	26	12
26. Puerperal Sepsis .. ..	F.	11	..	..	..	..	1	10	..	..	..
27. Other accidents and											
diseases of preg-											
nancy & parturition	F.	22	..	..	..	..	5	17	..	..	..
28. Congenital debility	M.	173	167	1	1	..	1	..	3	..	..
Malformation, and	F.	113	112	..	..	..	..	1	..	..	..
premature birth											
29. Suicide .. ..	M.	35	..	..	..	..	4	10	16	5	..
	F.	26	..	..	..	..	..	11	10	5	..
30. Other deaths from	M.	125	13	4	6	6	19	28	32	12	5
Violence	F.	73	5	3	6	7	11	10	7	13	11
31. Other defined diseases..	M.	480	79	10	14	19	11	42	130	90	85
	F.	414	28	16	12	8	13	50	99	69	119
32. Causes ill-defined or	M.	..	..	..	..	..	..	..	..	..	..
unknown	F.	1	..	1	..	..	..	..	..	..	..

## APPENDIX 4.

INFANT MORTALITY. CALENDAR YEAR 1929. NETT DEATHS FROM STATED CAUSE  
AT VARIOUS AGES UNDER 1 YEAR OF AGE.

CAUSES OF DEATH.	Under 1 week.	1-2 weeks.	2-3 weeks.	3-4 weeks.	Total under 4 weeks.	4 weeks and under 3 months.	3 months and under 6 months.	6 months and under 9 months.	9 months and under 12 months.	Total Deaths under 1 year.
Small-pox .. .. .	..	..	..	..	..	..	..	..	..	..
Chicken pox .. .. .	..	..	..	..	..	..	1	1	1	3
Measles .. .. .	..	..	..	..	..	..	2	5	9	16
Scarlet fever .. .. .	..	..	..	..	..	..	..	..	1	1
Whooping Cough .. .. .	..	..	..	..	..	4	7	10	13	34
Diphtheria .. .. .	..	..	..	..	..	..	..	..	2	2
Influenza .. .. .	..	1	1	..	2	1	2	1	1	7
Erysipelas .. .. .	..	..	..	..	..	..	..	..	..	..
Tuberculous Meningitis .. .. .	..	..	..	..	..	..	..	..	2	2
Abdominal Tuberculosis .. .. .	..	..	..	..	..	..	..	1	1	2
Other Tuberculous Diseases .. .. .	..	..	..	..	..	1	1	3	1	6
Meningitis (not Tuberculous) .. .. .	..	..	..	1	1	..	2	..	2	5
Convulsions .. .. .	6	8	..	2	16	6	5	3	1	31
Bronchitis .. .. .	..	..	..	1	1	5	10	6	4	26
Pneumonia (all forms) .. .. .	4	5	5	5	19	20	29	50	32	150
Other diseases of respiratory organs .. .. .	1	..	..	..	1	..	..	..	..	1
Diarrhœa .. .. .	..	3	1	1	5	15	30	15	6	71
Enteritis .. .. .	..	..	..	..	..	..	..	..	..	..
Gastritis .. .. .	..	..	..	1	1	..	..	..	..	1
Syphilis .. .. .	2	1	..	1	4	2	1	2	..	9
Rickets .. .. .	..	..	..	..	..	..	1	..	..	1
Suffocation, including overlying	14	2	1	..	17	4	..	..	..	21
Injury at birth .. .. .	15	1	2	..	18	..	..	..	..	18
Atelectasis .. .. .	16	3	..	..	19	..	..	..	..	19
Congenital Malformations .. .. .	13	7	3	..	23	11	2	1	..	37
Premature birth .. .. .	122	13	7	6	148	21	4	..	..	173
Atrophy, Debility and Marasmus .. .. .	10	8	4	4	26	12	4	2	..	44
Other Causes .. .. .	7	..	3	3	13	9	6	8	6	42
Totals .. .. .	210	52	27	25	314	111	107	108	82	722